V. ENVIRONMENTAL IMPACT ANALYSIS
L. TRANSPORTATION/CIRCULATION AND PARKING

This section is based on the Traffic Impact Study Report prepared by Crain & Associates dated January 2004, which is included as Appendix Q of this EIR.

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

(1) Traffic Study Requirements

The Traffic Impact Study Report described herein and included as Appendix Q has been prepared in accordance with the assumptions, methodology, and procedures established by the City of Long Beach, the Lead Agency for the proposed project, and in a manner consistent with Congestion Management Program Guidelines.

(2) Congestion Management Program

The intent of the Congestion Management Program (CMP) is to provide the analytical basis for transportation decisions made through the State Transportation and Improvement Program (STIP) process. A Countywide approach has been established by the Metropolitan Transportation Authority (MTA), which is the local CMP agency, to implement the statutory requirements of the CMP. The Countywide approach includes designating a highway network that includes all State highways and principal arterials within the County and monitoring the network's LOS standards. If LOS standards deteriorate, local jurisdictions must prepare a deficiency plan to be in conformance with the countywide plan. The CMP also requires that every City adopt and implement a Transportation Demand Management (TDM) ordinance.

The Transportation Impact Analysis (TIA) Guidelines outlined in the 2002 CMP for Los Angeles County require that, when an Environmental Impact Report is prepared for a project, traffic and transit analyses be conducted for select regional facilities based on the quantity of project traffic expected to utilize these facilities.

The CMP guidelines for determining the study area of the analysis for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections, including monitored on- or off-ramp intersections, where the proposed project will add 50 or more trips during either the A.M. or P.M. weekday peak hours of adjacent street traffic; and

- Mainline freeway monitoring locations where the project will add 150 or more trips, in either direction, during either the A.M. or P.M. weekday peak hours.

The Guidelines also state that the California Department of Transportation (Caltrans) must be consulted through the Notice of Preparation process to identify other specific locations to be analyzed on the state highway system.

There are nine CMP arterial monitoring intersection and six freeway monitoring locations identified within the project study area. These locations are shown in Figure 63 on page 666.

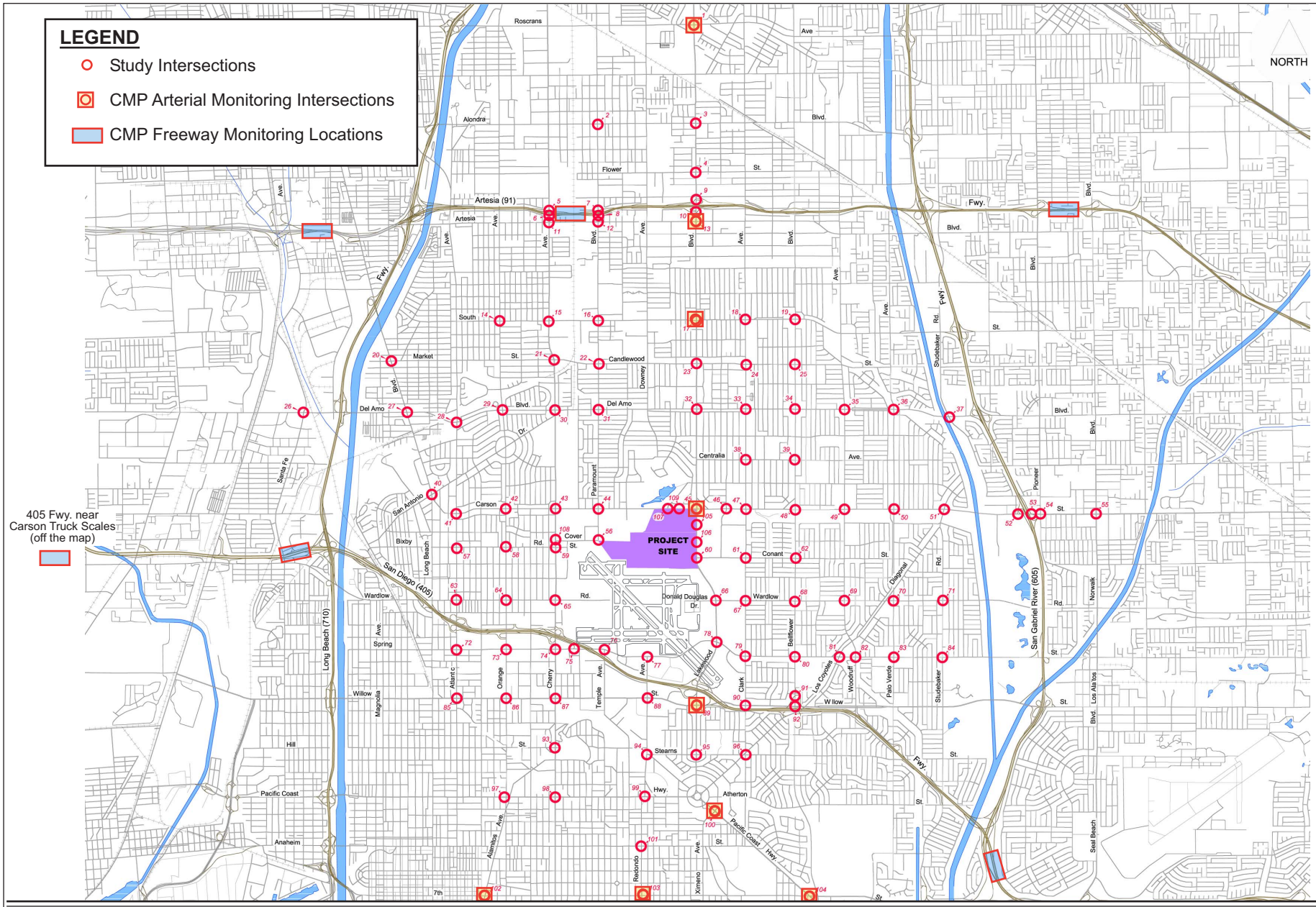
(3) Southern California Association of Governments Regional Transportation Plan

The project is subject to applicable goals, policies, and objectives contained within the Regional Transportation Plan (RTP) set forth by the Southern California Association of Governments (SCAG). Adopted in April 2001, the RTP contains a set of existing socioeconomic projections that are used as the basis for SCAG's transportation planning efforts. The RTP combines SCAG's goals of maintaining or promoting mobility, economic development, and the environment, as well as reducing energy use and encouraging transportation-friendly land use patterns. Applicable RTP policies are listed later in this section under subsection d(7) Consistency With Plans and Policies.

(4) City of Long Beach General Plan

The Transportation Element of the Long Beach General Plan (1991) serves as a long-range framework to guide the City in developing a comprehensive and balanced transportation system. The primary goal set forth in the Transportation Element is:

- To maintain or improve the current ability to move people to and from activity centers while reinforcing the quality of life in the neighborhoods.



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Scale Not Provided

Sources: Crain & Associates, October 2003

Figure 63
Study Intersections and CMP Locations

Specifically, the objectives included in the Transportation Element for the future transportation system as they relate to the PacifiCenter project are:

- To maintain traffic and transportation service levels at LOS D or at the 1987 LOS where that LOS was worse than D; and
- To accommodate reasonable, balanced growth.

The Transportation Element also contains more specific recommendations to implement the goals mentioned above, which apply to the project:

- To improve overall traffic carrying capacity and travel safety, and to reduce traffic conflicts as much as possible;
- To permit sufficient employment and residential densities along transit routes to encourage transit ridership; and
- To increase the amount and quality of moderate and higher density housing along selected corridors.

The Long Beach Bicycle Master Plan is a component of the Transportation Element.[388] The primary goals of the Plan are:

- To make bicycling safer, more convenient, and more enjoyable for all types of bicyclists, transportation and recreation related, with a goal to increase bicycle use by 5 percent by the year 2020;
- To encourage more people to bicycle for transportation to provide an attractive and healthy transportation option; and
- To develop an economical transportation option that promotes social equity.

(5) City of Lakewood General Plan

The General Plan for the City of Lakewood includes a Circulation Element, which identifies the following transportation-related goals that are relevant to the project:

[388] *The Long Beach Bicycle Master Plan was adopted by the Long Beach City Council in December 2001.*

- To maintain a fully developed network of arterial and collector streets which permit the safe and efficient movement of people and goods in harmony with the environment.

- To abate local traffic congestion associated with the development of new industrial and commercial uses at underutilized sites.

- To facilitate convenient and safe pedestrian, bicycle, and other modes of transportation that decrease dependence upon motorized vehicles.

- To reduce the number of daily traffic trips generated by the City.

b. Existing Conditions

(1) Existing Traffic Volumes and Levels of Service Methodologies

In order to assess the project's potential impacts to traffic in the study area, an analysis of existing (baseline) conditions at the existing study intersections was performed using established traffic engineering procedures.[389] These intersections are shown in Figure 63 on page 666. As described in the Traffic Impact Study Report provided in Appendix Q, the methodology used for this analysis was based on procedures outlined in the Transportation Research Board Circular, Interim Materials on Highway Capacity.[390] Baseline traffic volumes were obtained from manual traffic counts, the large majority of which were conducted in the fall of 2002. Counts that were conducted in 2001 were growth factored by 1.5 percent to reflect 2002 conditions. Traffic counts taken in 2003 were assumed to be valid for 2002 baseline conditions.

Based on the traffic volumes, the levels of service (LOS) for the study intersections were calculated. LOS is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. As described in the Traffic Impact Study Report presented in Appendix Q, a determination of

[389] *A signal is not proposed at the existing intersections of Carson Street/Lakewood Drive or Carson Street/Faculty Avenue. However, for analysis purposes, two-phase traffic signals were assumed in lieu of the stop sign control at these existing intersections. A two-phase traffic signal was also assumed in lieu of the existing stop sign control at the intersection of Cover Street/Cherry Avenue. Under the future with project condition, a half signal would be installed at this intersection. Also for purposes of analysis, a two-phase signal was assumed at the future intersections of A Street/Lakewood Boulevard and Carson Street/First Street.*

[390] *Interim Materials on Highway Capacity, Circular Number 212, Transportation Research Board, Washington, DC, 1980.*

the LOS at an intersection where traffic volumes are known or have been projected can be obtained by dividing the sum of critical movement volumes by the appropriate capacity value for the type of signal control present or proposed at the study intersection, as adjusted to reduce the basic capacity to account for signal clearance intervals and lost time. The corresponding LOS, as well as the definition of each of the levels, is shown in Table 62 on page 670.

Traffic volumes for the two freeways expected to be the most affected by project traffic and those recommended for analysis by Caltrans (i.e., I-405 and SR-91) were obtained from Caltrans. Baseline freeway mainline volumes are from 2002 and the baseline freeway ramp volumes are from 2001 and 2002, which is the most current data at the time of the analysis. Based on comparative growth trends, the freeway volumes were factored up, as appropriate, to reflect conditions for the 2002 base year. Consistent with CMP Guidelines, the freeway mainline analysis was performed as a traffic demand-to-capacity (D/C) ratio calculation for each freeway segment per direction. The D/C ratios for the freeway mainlines were obtained by dividing the A.M. and P.M. peak-hour directional volumes by the directional capacities for those segments. According to the CMP, freeway mainline levels of service have the correlations shown on Table 63 on page 671. These correlations were also used for the analysis of the freeway ramps.

As indicated in the Traffic Impact Study Report, freeway ramp operation is influenced by several factors, including entry and exit geometrics, signal and/or ramp metering timing, and the number of lanes on the ramp. The operational service of the off-ramps expected to be the most affected by the project is inherently reflected in the analysis of the nearby study intersections, as off-ramps are controlled by at grade factors such as signals and stop signs. As such, the focus of the freeway ramp analysis presented in the Traffic Impact Study Report is the on-ramps.

Traffic volumes for the residential street segments selected for analysis were obtained from 24-hour machine traffic counts conducted in 2002.[391] Future traffic volumes were then projected on the same basis as for the study intersections described above.

[391] *24-hour machine counts could not be conducted on the 28th Street segment as the equipment was repeatedly vandalized or disconnected at this location. Consequently, daily traffic volumes for this segment were estimated from manual traffic counts taken in 2002 at the intersections of 28th Street/Clark Avenue and 28th Street/Bellflower Boulevard.*

Table 62

LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTION

Level of Service	Description of Operating Characteristics	Range of Critical Movement Analysis Values
A	Excellent. Uncongested operations; all vehicles clear in a single cycle.	<0.60
B	Very Good. An occasional approach phase is fully utilized.	>0.60<0.70
C	Good. Light congestion; occasional backups on critical approaches.	>0.70<0.80
D	Fair. Congestion on critical approaches, but intersection functional. Vehicles required to wait through more than one cycle during short peaks. No long-standing lines formed.	>0.80<0.90
E	Poor. Severe congestion with some long-standing lines on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements.	>0.90<1.00
F	Failure. Forced flow with stoppages of long duration.	>1.00

Source: Crain & Associates, January 2004.

(2) Street System

Regional access to the PacifiCenter site is primarily provided by the San Diego Freeway (I-405) and the Artesia Freeway (SR-91). The Long Beach Freeway (I-710) and the San Gabriel River Freeway (I-605) also provide regional access to the site. These freeways are described below:

- San Diego Freeway: I-405 is generally a north-south oriented freeway that connects the northern San Fernando Valley to the north and Orange Country to the south. Located approximately 1.5 miles to the south, it is the closest freeway to the project site. Freeway ramps from I-405 used primarily to access the site include Orange Avenue, Cherry Avenue, Spring Street, Lakewood Boulevard, and Bellflower Boulevard. In the study area, I-405 generally has four lanes in each direction plus a high-occupancy vehicle (HOV) lane each way. Full interchange is provided with the Long Beach Freeway (I-710) and the San Gabriel River Freeway (I-605).

- Artesia Freeway: SR-91 is an east-west freeway located approximately 3.5 miles north of the project site. This freeway connects the Harbor Freeway (I-110) to the west with the Golden State Freeway (I-5) to the east through the Cities of Torrance, Carson, Compton, Long Beach, Bellflower, Cerritos, Artesia, La Palma, and Buena Park. In the study area, SR-91 generally has four to five lanes in each direction, in addition to one HOV lane each way. This freeway

Table 63

LEVEL OF SERVICE DEFINITIONS FOR FREEWAY MAINLINE SEGMENTS

Demand-to-Capacity Ratio	Level of Service
0.01 to 0.35	A
0.36 to 0.54	B
0.55 to 0.77	C
0.78 to 0.93	D
0.94 to 1.00	E
1.00	F

Source: Crain & Associates, January 2004.

has a full interchange with I-710 and I-605. Access to the site from SR-91 is primarily provided by freeway ramps at Cherry Avenue, Paramount Boulevard, Lakewood Boulevard, and Bellflower Boulevard.

- Long Beach Freeway: I-710 is a north-south freeway connecting the Long Beach Harbor area with the San Gabriel Valley. This freeway is approximately three miles west of the project site and consists of three to four lanes in each direction, with no HOV lanes. It has a full interchange with I-405 and SR-91. Site access is available via ramp connections at Del Amo Boulevard and Long Beach Boulevard.

- San Gabriel River Freeway: I-605 is a north-south freeway located approximately three miles east of the project site. This freeway connects western Orange County with northeastern Los Angeles County. In the study area, this freeway interchanges with the Garden Grove Freeway (SR-22), I-405, and SR-91. In the study area, I-605 generally consists of four lanes per direction with HOV lanes. Freeway ramps at Carson Street provide the most direct access to the project site.

Locally, the primary roadways that serve the project site are Carson Street, Lakewood Boulevard, Spring Street, Paramount Boulevard, and Cherry Avenue. In addition, Cover Street, Conant Street, and Clark Avenue provide secondary access to the site. The roadways are described below:

- Carson Street: Carson Street serves as the northern boundary of the project site as well as a boundary street between the Cities of Long Beach and Lakewood. It is an east-west major arterial that extends easterly from Long Beach Boulevard, past I-605 where it has ramp connections, and into Orange

County where it becomes Lincoln Boulevard. Carson Street has one lane per direction west of Atlantic Avenue and two to three lanes per direction east of Atlantic Avenue, along with left turn channelization. A bike path is provided along portions of the roadway. Carson Street generally serves the Cities of Long Beach, Lakewood, and Hawaiian Gardens.

- Lakewood Boulevard: Lakewood Boulevard is a north-south regional corridor that forms the eastern project boundary. It extends through the Cities of Long Beach, Lakewood, and Bellflower, and is a State highway north of Del Amo Boulevard. In part of the study area, Lakewood Boulevard provides two to three travel lanes in each direction and left-turn channelization. Lakewood Boulevard was recently improved between Carson Street and Willow Street within the City of Long Beach to provide up to four lanes per direction on some segments, plus additional turn lanes. Lakewood Boulevard has interchanges with I-405 and SR-91.

- Spring Street: This east-west roadway, located approximately one mile south of the project site, serves as a boundary street between the Cities of Long Beach and Signal Hill. It extends easterly from the Los Angeles River to the Los Angeles/Orange County border where it becomes Cerritos Avenue. Spring Street is designated a collector street between Magnolia Avenue and Pacific Avenue, and is a major arterial east of Pacific Avenue. It generally consists of three lanes in each direction, plus left-turn channelization.

- Paramount Boulevard: Paramount Boulevard is a north-south major arterial for most of its length that terminates on the south at Cover Street just west of the project site. It serves the City of Lakewood and the northern portion of the City of Long Beach and reaches as far north as the City of Pico Rivera. This roadway consists of two lanes in each direction, along with left-turn channelization, and bike lanes on portions of the roadway. Paramount Boulevard has ramp connections with the SR-91.

- Cherry Avenue: Located approximately 0.4 mile west of the project site, Cherry Avenue extends in a north-south direction from Ocean Boulevard, through the Cities of Long Beach and Signal Hill, and forms the western boundary of the City of Lakewood. Between the Long Beach Harbor and Pacific Coast Highway Cherry Avenue is a collector street and a minor arterial. Two to three travel lanes per direction and left-turn channelization are provided on Cherry Avenue in the study area along with ramp connections with I-405 and SR-91.

- Cover Street: This east-west roadway is a local street that extends from Cherry Avenue into the project site, forming a portion of the northern edge of the site. It

has one to two lanes in each direction and is within both the City of Long Beach and the City of Lakewood.

- Conant Street: Conant Street is an east-west local street that extends easterly from Lakewood Boulevard. Direct access to the project site is provided via Conant Street at Lakewood Boulevard. Conant Street has two lanes in each direction east of Lakewood Boulevard and one lane per direction east of Clark Avenue.

- Clark Avenue: Clark Avenue, which runs in a north-south direction, is located one-half mile east of the project site. It is designated as a collector street north of Carson Street and a minor arterial south of Carson Street. Clark Avenue traverses the Cities of Downey, Bellflower, Lakewood, and Long Beach, terminating on the south at Pacific Coast Highway. This roadway generally consists of two to three lanes in each direction, although there is one lane in each direction between Carson Street and Del Amo Boulevard, along with left turn channelization.

(3) Existing Traffic Volumes and Levels of Service

Table 64 on pages 674 through 680 summarizes the existing A.M. and P.M. peak hour LOS at each of the study intersections, except for intersections of A Street and Lakewood Boulevard (No. 106) and Carson Street and First Street (No. 109), which are created only with the development of the project. The locations of these study intersections are depicted in Figure 63. As shown in the table, under existing conditions, 68 of the 107 existing study intersections operate at LOS D or better during both the A.M. and P.M. peak hours. Thirty-nine (39) intersections operate at LOS E or F in one or both of the peak hours under existing conditions. As mentioned above, two study intersections (nos. 106 and 109) do not currently exist and thus, existing levels of service for these intersections are not provided. Existing traffic count information is included in Appendix Q of this EIR.

The analysis of freeway conditions in the study area focused on I-405 and SR-91, which are the two regional facilities that are expected to be the most affected by the project and the two that were requested for analysis by Caltrans. This analysis indicated that under existing conditions, all nine of the studied mainline segments on I-405 from south of the 110 Freeway to north of the 22 Freeway currently operate at LOS E or F during one or both peak hours. All six of the mainline segments on SR-91 within the study area operate at LOS E or F during one or both peak hours under existing conditions. Table 65 on page 681 summarizes the existing A.M. and P.M. peak-hour traffic conditions on I-405 and SR-91.

Table 64

EXISTING (2002) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Existing V/C[a]	Existing LOS
1	Rosecrans Avenue and Lakewood Boulevard	A.M.	0.851	D
		P.M.	1.044	F
2	Alondra Boulevard and Paramount Boulevard	A.M.	0.653	B
		P.M.	0.899	D
3	Alondra Boulevard and Lakewood Boulevard	A.M.	0.801	D
		P.M.	1.041	F
4	Flower Street and Lakewood Boulevard	A.M.	0.684	B
		P.M.	0.782	C
5	SR-91 W/B On/Off Ramps and Cherry Avenue	A.M.	0.534	A
		P.M.	0.615	B
6	SR-91 E/B On/Off Ramps and Cherry Avenue	A.M.	0.546	A
		P.M.	0.554	A
7	SR-91 W/B On/Off Ramps and Paramount Boulevard	A.M.	0.545	A
		P.M.	0.699	B
8	SR-91 E/B On/Off Ramps and Paramount Boulevard	A.M.	0.565	A
		P.M.	0.644	B
9	SR-91 W/B On/Off Ramps and Lakewood Boulevard	A.M.	0.476	A
		P.M.	0.617	B
10	SR-91 E/B On/Off Ramps and Lakewood Boulevard	A.M.	0.62	B
		P.M.	0.727	C
11	Artesia Boulevard and Cherry Avenue	A.M.	0.907	E
		P.M.	1.144	F
12	Artesia Boulevard and Paramount Boulevard	A.M.	0.710	C
		P.M.	1.023	F
13	Artesia Boulevard and Lakewood Boulevard	A.M.	1.029	F
		P.M.	1.117	F
14	South Street and Orange Avenue	A.M.	0.494	A
		P.M.	0.522	A
15	South Street and Cherry Avenue	A.M.	0.880	D
		P.M.	1.166	F
16	South Street and Paramount Boulevard	A.M.	0.653	B
		P.M.	0.887	D

Table 64 (Continued)

EXISTING (2002) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Existing V/C[a]	Existing LOS
17	South Street and Lakewood Boulevard	A.M.	0.776	C
		P.M.	1.153	F
18	South Street and Clark Avenue	A.M.	0.785	C
		P.M.	0.943	E
19	South Street and Bellflower Boulevard	A.M.	0.710	C
		P.M.	0.865	D
20	Market Street and Long Beach Boulevard	A.M.	0.682	B
		P.M.	0.988	E
21	Market Street and Cherry Avenue	A.M.	0.672	B
		P.M.	0.855	D
22	Candlewood Street and Paramount Boulevard	A.M.	0.495	A
		P.M.	0.641	B
23	Candlewood Street and Lakewood Boulevard	A.M.	0.543	A
		P.M.	0.768	C
24	Candlewood Street and Clark Avenue	A.M.	0.597	A
		P.M.	0.885	D
25	Candlewood Street and Bellflower Boulevard	A.M.	0.834	D
		P.M.	1.097	F
26	Del Amo Boulevard and Santa Fe Avenue	A.M.	0.723	C
		P.M.	1.195	F
27	Del Amo Boulevard and Long Beach Boulevard	A.M.	0.883	D
		P.M.	1.027	F
28	Del Amo Boulevard and Atlantic Avenue	A.M.	0.808	D
		P.M.	1.037	F
29	Del Amo Boulevard and Orange Avenue	A.M.	0.834	D
		P.M.	1.008	F
30	Del Amo Boulevard and Cherry Avenue	A.M.	0.869	D
		P.M.	1.027	F
31	Del Amo Boulevard and Paramount Boulevard	A.M.	0.807	D
		P.M.	0.831	D
32	Del Amo Boulevard and Lakewood Boulevard	A.M.	1.015	F
		P.M.	1.237	F

Table 64 (Continued)

EXISTING (2002) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Existing V/C[a]	Existing LOS
33	Del Amo Boulevard and Clark Avenue	A.M.	0.721	C
		P.M.	0.938	E
34	Del Amo Boulevard and Bellflower Boulevard	A.M.	0.951	E
		P.M.	1.039	F
35	Del Amo Boulevard and Woodruff Avenue	A.M.	0.838	D
		P.M.	0.975	E
36	Del Amo Boulevard and Palo Verde Avenue	A.M.	0.689	B
		P.M.	0.933	E
37	Del Amo Boulevard and Studebaker Road	A.M.	0.778	C
		P.M.	0.883	D
38	Centralia Street and Clark Avenue	A.M.	0.620	B
		P.M.	0.757	C
39	Centralia Street and Bellflower Boulevard	A.M.	0.468	A
		P.M.	0.62	B
40	San Antonio Drive and Long Beach Boulevard	A.M.	0.544	A
		P.M.	0.822	D
41	Carson Street and Atlantic Avenue	A.M.	0.610	B
		P.M.	0.842	D
42	Carson Street and Orange Avenue	A.M.	0.613	B
		P.M.	0.714	C
43	Carson Street and Cherry Avenue	A.M.	0.672	B
		P.M.	0.886	D
44	Carson Street and Paramount Boulevard	A.M.	0.575	A
		P.M.	0.865	D
45	Carson Street and Lakewood Boulevard	A.M.	0.729	C
		P.M.	0.857	D
46	Carson Street and Faculty Avenue[b]	A.M.	0.482	A
		P.M.	0.602	B
47	Carson Street and Clark Avenue	A.M.	0.724	C
		P.M.	0.942	E
48	Carson Street and Bellflower Boulevard	A.M.	0.884	D
		P.M.	1.062	F

Table 64 (Continued)

EXISTING (2002) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Existing V/C[a]	Existing LOS
49	Carson Street and	A.M.	0.700	B
	Woodruff Avenue	P.M.	0.882	D
50	Carson Street and	A.M.	0.880	D
	Palo Verde Avenue	P.M.	0.924	E
51	Carson Street and	A.M.	0.718	C
	Los Coyotes Diagonal	P.M.	1.022	F
52	Carson Street and	A.M.	0.553	A
	I-605 SB Off-Ramp	P.M.	0.899	D
53	Carson Street and	A.M.	0.581	A
	I-605 NB On/Off Ramps	P.M.	0.622	B
54	Carson Street and	A.M.	0.725	C
	Pioneer Boulevard	P.M.	1.101	F
55	Carson Street and	A.M.	0.542	A
	Norwalk Boulevard	P.M.	0.896	D
56	Cover Street and	A.M.	0.453	A
	Paramount Boulevard	P.M.	0.681	B
57	Bixby Road and	A.M.	0.637	B
	Atlantic Avenue	P.M.	0.681	B
58	Bixby Road and	A.M.	0.839	D
	Orange Avenue	P.M.	0.767	C
59	Bixby Road and	A.M.	0.532	A
	Cherry Avenue	P.M.	0.553	A
60	Conant Street/B Street and	A.M.	0.402	A
	Lakewood Boulevard	P.M.	0.473	A
61	Conant Street and	A.M.	0.342	A
	Clark Avenue	P.M.	0.342	A
62	Conant Street and	A.M.	0.440	A
	Bellflower Boulevard	P.M.	0.590	A
63	Wardlow Road and	A.M.	0.793	C
	Atlantic Avenue	P.M.	0.860	D
64	Wardlow Road and	A.M.	0.817	D
	Orange Avenue	P.M.	0.868	D

Table 64 (Continued)

EXISTING (2002) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Existing V/C[a]	Existing LOS
65	Wardlow Road and	A.M.	0.838	D
	Cherry Avenue	P.M.	0.982	E
66	Wardlow Road/D. Douglas Dr. and	A.M.	0.688	B
	Lakewood Boulevard	P.M.	0.564	A
67	Wardlow Road and	A.M.	0.585	A
	Clark Avenue	P.M.	0.514	A
68	Wardlow Road and	A.M.	0.772	C
	Bellflower Boulevard	P.M.	0.931	E
69	Wardlow Road and	A.M.	0.760	C
	Woodruff Avenue	P.M.	0.760	C
70	Wardlow Road and	A.M.	0.540	A
	Palo Verde Avenue	P.M.	0.667	B
71	Wardlow Road and	A.M.	0.692	B
	Studebaker Road	P.M.	0.784	C
72	Spring Street and	A.M.	0.876	D
	Atlantic Avenue	P.M.	0.983	E
73	Spring Street and	A.M.	0.747	C
	Orange Avenue	P.M.	0.728	C
74	Spring Street and	A.M.	0.633	B
	Cherry Avenue	P.M.	0.774	C
75	Spring Street and	A.M.	0.750	C
	I-405 Southbound Off-Ramp	P.M.	0.674	B
76	Spring Street and	A.M.	0.641	B
	Temple Avenue	P.M.	0.617	B
77	Spring Street and	A.M.	0.560	A
	Redondo Avenue	P.M.	0.762	C
78	Spring Street and	A.M.	0.857	D
	Lakewood Boulevard	P.M.	0.825	D
79	Spring Street and	A.M.	0.583	A
	Clark Avenue	P.M.	0.732	C
80	Spring Street and	A.M.	0.896	D
	Bellflower Boulevard	P.M.	0.960	E

Table 64 (Continued)

EXISTING (2002) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Existing V/C[a]	Existing LOS
81	Spring Street and	A.M.	0.791	C
	Los Coyotes Diagonal	P.M.	0.819	D
82	Spring Street and	A.M.	0.650	B
	Woodruff Avenue	P.M.	0.639	B
83	Spring Street and	A.M.	0.642	B
	Palo Verde Avenue	P.M.	0.786	C
84	Spring Street and	A.M.	0.772	C
	Studebaker Road	P.M.	0.890	D
85	Willow Street and	A.M.	0.780	C
	Atlantic Avenue	P.M.	1.005	F
86	Willow Street and	A.M.	0.754	C
	Orange Avenue	P.M.	0.812	D
87	Willow Street and	A.M.	0.812	D
	Cherry Avenue	P.M.	0.844	D
88	Willow Street and	A.M.	0.675	B
	Redondo Avenue	P.M.	0.807	D
89	Willow Street and	A.M.	0.887	D
	Lakewood Boulevard	P.M.	0.996	E
90	Willow Street and	A.M.	0.859	D
	Clark Avenue	P.M.	0.742	C
91	I-405 N/B Off Ramp and	A.M.	0.464	A
	Bellflower Boulevard	P.M.	0.490	A
92	Willow Street and	A.M.	0.838	D
	Bellflower Boulevard	P.M.	0.943	E
93	Hill Street and	A.M.	0.475	A
	Cherry Avenue	P.M.	0.549	A
94	Stearns Street and	A.M.	0.603	B
	Redondo Avenue	P.M.	0.579	A
95	Stearns Street and	A.M.	0.778	C
	Lakewood Boulevard	P.M.	0.853	D
96	Stearns Street/Clark Ave and	A.M.	0.907	E
	Los Coyotes Diagonal	P.M.	1.142	F

Table 64 (Continued)

EXISTING (2002) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Existing V/C[a]	Existing LOS
97	Pacific Coast Highway and	A.M.	0.833	D
	Orange Avenue	P.M.	0.822	D
98	Pacific Coast Highway and	A.M.	1.004	F
	Cherry Avenue	P.M.	1.034	F
99	Pacific Coast Highway and	A.M.	0.998	E
	Redondo Avenue	P.M.	1.004	F
100	Ximeno Avenue and	A.M.	0.912	E
	Pacific Coast Highway	P.M.	0.842	D
101	Anaheim Street and	A.M.	0.755	C
	Redondo Avenue	P.M.	1.035	F
102	Seventh Street and	A.M.	0.791	C
	Alamitos Avenue	P.M.	0.779	C
103	Seventh Street and	A.M.	0.864	D
	Redondo Avenue	P.M.	1.024	F
104	Seventh Street and	A.M.	1.010	F
	Pacific Coast Highway	P.M.	1.051	F
105	Douglas Center Drive	A.M.	0.456	A
	and Lakewood Blvd	P.M.	0.494	A
106	A Street and	A.M.	N/A	N/A
	Lakewood Boulevard[b]	P.M.	N/A	N/A
107	Carson Street and	A.M.	0.418	A
	Lakewood Drive[c]	P.M.	0.449	A
108	Cover Street and	A.M.	0.426	A
	Cherry Avenue[c]	P.M.	0.710	C
109	Carson Street and	A.M.	N/A	N/A
	First Street[b, c]	P.M.	N/A	N/A

[a] *A V/C ratio that exceeds 1.0 is typically indicative of a highly congested conditions where traffic volumes exceed the theoretical capacity of the intersection during that hour.*

[b] *These intersections do not currently exist, but will be created with the development of the project.*

[c] *These intersections are not currently signalized, although signalization has been assumed for analysis purposes.*

Source: Crain & Associates, January 2004.

Table 65

FREEWAY SEGMENTS EXISTING (2002) LEVEL OF SERVICE CONDITIONS

	Freeway Segment	Peak Hour	Direction	Existing Freeway Capacity	Existing Daily Volume	Existing Peak-Hour Volume	Existing D/C	Existing LOS
1	San Diego Freeway (I-405)	A.M.	N/B	9,600	244,000	9,850	1.026	F
	s/o Route 110 at Carson Scales		S/B	9,600		7,240	0.754	C
	(CMP Station)	P.M.	N/B	9,600		8,140	0.848	D
			S/B	9,600		9,660	1.006	F
2	San Diego Freeway (I-405)	A.M.	N/B	7,600	283,000	9,780	1.287	F
	at Santa Fe Ave		S/B	7,600		8,560	1.126	F
	(CMP Station)	P.M.	N/B	7,600		9,270	1.220	F
			S/B	7,600		9,830	1.293	F
3	San Diego Freeway (I-405)	A.M.	N/B	9,600	276,000	11,440	1.192	F
	betw. I-710 and Atlantic Ave		S/B	9,600		9,010	0.939	E
		P.M.	N/B	9,600		10,470	1.091	F
			S/B	9,600		10,830	1.128	F
4	San Diego Freeway (I-405)	A.M.	N/B	9,600	281,000	9,310	0.970	E
	betw. Atlantic Ave and Cherry Ave		S/B	9,600		9,600	1.000	E
		P.M.	N/B	9,600		9,210	0.959	E
			S/B	9,600		10,490	1.093	F
5	San Diego Freeway (I-405)	A.M.	N/B	9,600	271,000	9,750	1.016	F
	betw. Cherry Ave and Lakewood Blvd		S/B	9,600		9,060	0.944	E
		P.M.	N/B	9,600		8,730	0.909	D
			S/B	9,600		10,870	1.132	F
6	San Diego Freeway (I-405)	A.M.	N/B	9,600	269,000	8,860	0.923	D
	betw. Lakewood Blvd and Bellflower Blvd		S/B	9,600		7,560	0.788	D
		P.M.	N/B	9,600		7,810	0.814	D
			S/B	9,600		9,290	0.968	E
7	San Diego Freeway (I-405)	A.M.	N/B	9,600	256,000	9,500	0.990	E
	betw. Bellflower Blvd and Woodruff Ave		S/B	9,600		7,390	0.770	C
		P.M.	N/B	9,600		8,900	0.927	D
			S/B	9,600		8,700	0.906	D
8	San Diego Freeway (I-405)	A.M.	N/B	9,600	254,000	9,020	0.940	E
	betw. Woodruff Ave and Studebaker Rd		S/B	9,600		7,390	0.770	C
		P.M.	N/B	9,600		7,480	0.779	D
			S/B	9,600		9,620	1.002	F

Table 65 (Continued)

FREEWAY SEGMENTS EXISTING (2002) LEVEL OF SERVICE CONDITIONS

	Freeway Segment	Peak Hour	Direction	Existing Freeway Capacity	Existing Daily Volume	Existing Peak-Hour Volume	Existing D/C	Existing LOS
9	San Diego Freeway (I-405)	A.M.	N/B	7,600	256,000	9,560	1.258	F
	n/o Route 22		S/B	9,600		7,630	0.795	D
	(CMP Station)	P.M.	N/B	7,600		7,910	1.041	F
			S/B	9,600		9,990	1.041	F
10	Artesia Freeway (SR-91)	A.M.	E/B	11,600	208,000	11,510	0.992	E
	e/o Alameda St / Santa Fe Ave		W/B	11,600		5,990	0.516	B
	(CMP Station)	P.M.	E/B	11,600		7,790	0.672	C
			W/B	11,600		9,710	0.837	D
11	Artesia Freeway (SR-91)	A.M.	E/B	9,600	255,000	11,120	1.158	F
	betw. I-710 and Cherry Ave		W/B	9,600		10,780	1.123	F
		P.M.	E/B	9,600		9,710	1.011	F
			W/B	9,600		12,190	1.270	F
12	Artesia Freeway (SR-91)	A.M.	E/B	9,600	259,000	10,510	1.095	F
	betw. Cherry Ave and Paramount Blvd		W/B	9,600		10,190	1.061	F
	(CMP Station)	P.M.	E/B	9,600		9,180	0.956	E
			W/B	9,600		11,520	1.200	F
13	Artesia Freeway (SR-91)	A.M.	E/B	9,600	248,000	11,160	1.163	F
	betw. Paramount Blvd and Lakewood Blvd		W/B	9,600		8,640	0.900	D
		P.M.	E/B	9,600		9,140	0.952	E
			W/B	9,600		10,660	1.110	F
14	Artesia Freeway (SR-91)	A.M.	E/B	9,600	250,000	9,590	0.999	E
	betw. Lakewood Blvd and Bellflower Blvd		W/B	9,600		9,910	1.032	F
		P.M.	E/B	9,600		8,670	0.903	D
			W/B	9,600		10,830	1.128	F
15	Artesia Freeway (SR-91)	A.M.	E/B	7,600	265,000	8,960	1.179	F
	betw. Norwalk Blvd and Pioneer Blvd		W/B	7,600		10,140	1.334	F
	(CMP Station)	P.M.	E/B	7,600		8,730	1.149	F
			W/B	7,600		10,370	1.364	F

Source: Crain & Associates, January 2004.

All of the on-ramp lanes of I-405 and SR-91 are controlled by ramp metering signals, except for the HOV lanes. All of the analyzed on-ramps serving I-405 and SR-91 are operating at LOS D or better under existing conditions. As previously discussed, the off-ramps of I-405 and SR-91 are controlled by signals, stop signs, or other at-grade factors such as the nearest surface street intersection. These at-grade intersections exhibit capacity constraints that control the operation of the off-ramps. Thus, the operational service of the off-ramps expected to be the most affected by the project is inherently reflected in the analysis of nearby study intersections. These intersections include off-ramps that are signalized at their intersections with surface streets, as well as signalized surface street intersections in close proximity to non-signalized off-ramp intersections. Thus, the off-ramps were not further analyzed. Therefore, the focus of the freeway ramp analysis was on the on-ramps.

Based on project scoping, an analysis of residential streets was performed for five street segments near the project site. These residential street segments, along with their existing A.M., P.M., and daily volumes, are included in Table 66 on page 684.

(4) Transit System

Long Beach Transit (LBT) is the primary transit service provider in the City of Long Beach and the project vicinity. The LBT network of 38 bus routes connects with the Metro Blue Line light rail service and several Metro bus routes. Three LBT bus routes provide direct access to the PacifiCenter site. LBT Route 111 operates along Lakewood Boulevard, which adjoins the east side of the site. LBT Routes 101 and 103 operate along Carson Street. Both of these routes connect with the Metro Blue Line Light Rail Transit (LRT) Wardlow Station, located approximately three miles west of the project site. This line provides service between the First Street Transit Mall in downtown Long Beach and downtown Los Angeles as well as transfer opportunities to much of the regional public transit system. There are also bus routes in the general vicinity of the project that are operated by the Los Angeles County Metropolitan Transportation Authority (MTA). Figure 64 on page 685 illustrates the existing transit service in the project area. Regional transit service is described in detail in the Traffic Impact Study Report included as Appendix Q of this EIR.

(5) Bicycle and Pedestrian Facilities

The City of Long Beach has a system of Class I, II, and III bikeways that collectively covers approximately 63 miles. The bikeways that are in the area surrounding the project site are shown in Figure 65 on page 686. Class I facilities separate bicyclists from motor vehicles through dedicated paths that are separate from streets and highways; Class II

Table 66

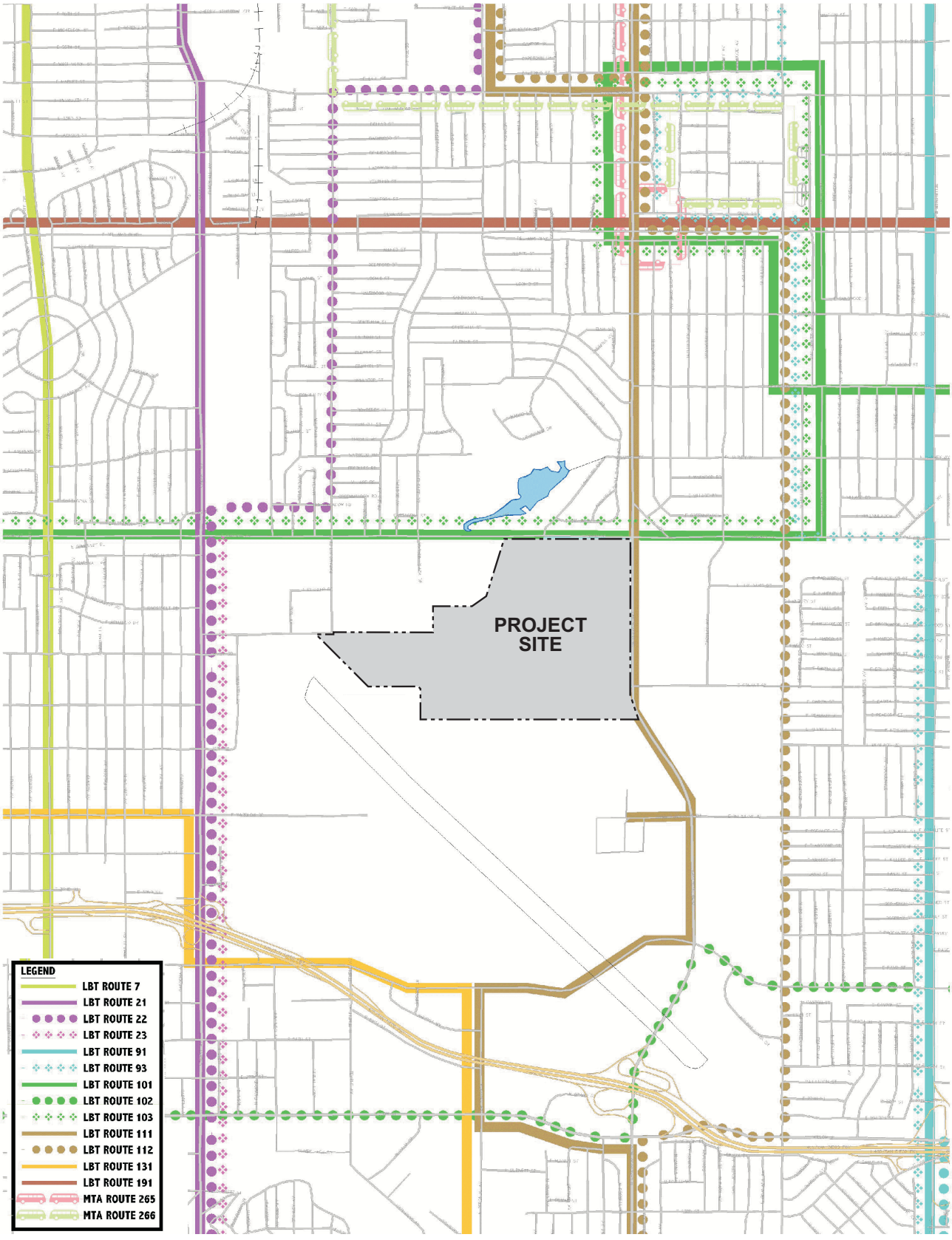
RESIDENTIAL STREET SEGMENTS EXISTING (2002) TRAFFIC VOLUMES

Segment	Time Period	Existing Volumes
Conant Street between	A.M. Peak	130
Clark Avenue & Bellflower Blvd.	P.M. Peak	135
	Daily	1,770
Bixby Road between	A.M. Peak	295
Orange Avenue. & Cherry Avenue	P.M. Peak	320
	Daily	3,620
Clark Avenue between	A.M. Peak	1,145
Arbor Road & Centralia Street	P.M. Peak	1,895
	Daily	19,510
Lakewood Drive between	A.M. Peak	125
Ann Arbor Road & Carson Street	P.M. Peak	120
	Daily	1,080
28th Street between	A.M. Peak	135
Clark Avenue & Bellflower Blvd.	P.M. Peak	125
	Daily	1,480

Source: Crain & Associates, January 2004.

facilities provide restricted bicycle rights-of-way on streets and highways and are most often designated by a painted line and road signs; and Class III bikeways share travel lanes with motor vehicles and are identified through signs only. The City's bikeway system is not yet continuous or complete. The Heartwell Park Bike Path is the most notable existing bikeway due to its Class I designation and adjacency to the PacifiCenter site. This path is located off of Carson Street, with the west end of the path immediately adjacent to northern boundary of the project site. Other bikeways in the vicinity of the project site include the Bellflower Boulevard Bike Lane and the Orange Avenue Bike Lane, both of which are Class II facilities. The existing bikeway system provides reasonable access to the project site from the east, southeast, and northeast, with more limited access from the west and north.

The existing pedestrian environment within the project site consists primarily of disconnected sidewalks. Pedestrian access along the perimeter of the site is available along Lakewood Boulevard and Carson Street. In addition, a pedestrian bridge provides access from the PacifiCenter site to the adjacent Boeing facilities across Lakewood Boulevard.



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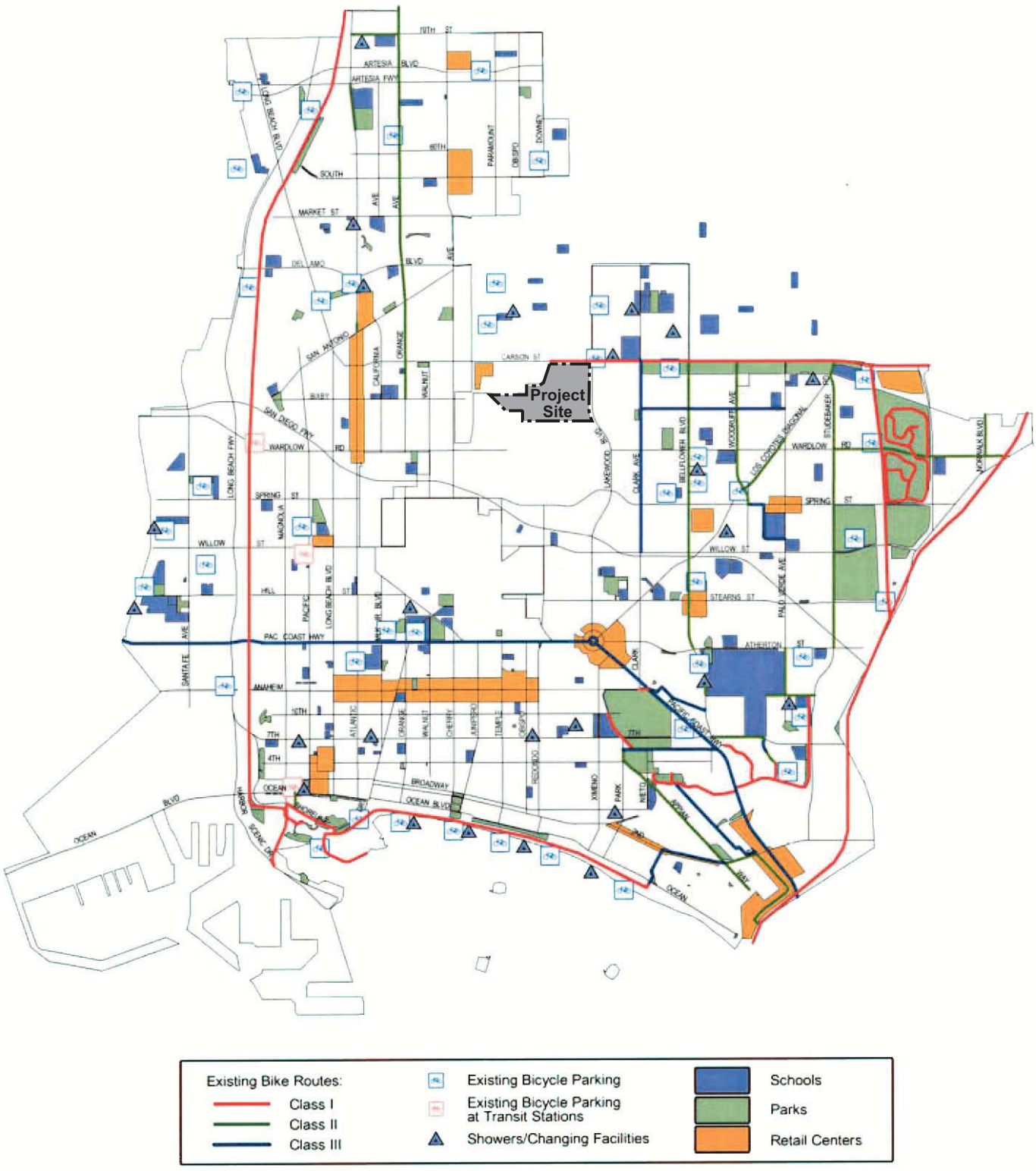
Scale Not Provided

Figure 64
Project Area Transit Services

Source: Crain & Associates, October 2003



Source: Long Beach Bicycle Master Plan, 2001

Figure 65
Existing Bikeway Facilities in the City of Long Beach

(6) Parking

The existing parking supply on the project site is comprised of several off-street surface parking lots distributed throughout the site. As of November 2002, these surface parking areas provided approximately 8,640 parking spaces to accommodate the demand for parking by on-site uses. Some of this surface parking is in the process of or will be removed as part of the demolition activities associated with the mandated remediation program underway for the project site.

2. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Trip Generation

As discussed in the Traffic Impact Study Report presented in Appendix Q, the Institute of Transportation Engineers (ITE) Trip Generation Manual was used to estimate the project trip generation based on proposed land uses.[392] These trip generation equations and rates for existing and proposed on-site uses are included in Appendix Q of this EIR. It was determined that the ITE "Office Park" land use has higher trip generation characteristics per 1,000 square feet than land uses such as general office, R&D, industrial, manufacturing, and warehousing. Therefore, in order to provide a conservative analysis and to ensure that all of the proposed land uses are adequately analyzed should any or all of them be developed within the site, the ITE "Office Park" land use and its trip generation equations were assumed for the commercial component of the project, excluding the retail and hotel components. The ITE "Shopping Center" and "Hotel" land use categories were applied to the retail and hotel components, respectively. The trip generations for the Residential components were based on the ITE "Single-Family Detached Housing," "Apartment," and "Condominium/Townhouse" land use categories.

As the proposed project is a large multi-use development, an internal capture of trips would be expected to occur within the project site. Internal capture is the phenomenon whereby persons going to one use at a site may also visit other uses within the same site on a single trip. This results in the accomplishment of multiple trip purposes while only one inbound and one outbound vehicle trip is generated. Since the PacifiCenter project will consist of a mix of uses providing for housing, employment, and retail

[392] *Institute of Transportation Engineers, Trip Generation, 6th Edition, 1997.*

opportunities on a single site, an internal capture of trips will likely be a common occurrence on the site. The ITE Trip Generation Handbook was reviewed to estimate internal trip capture rates for the project. While these trips were discounted from the roadway trips outside of the project site, they were included in the transportation model analysis of internal project roadway conditions. A five percent internal trip adjustment factor was assumed to account for internal non-vehicle trips (e.g., pedestrians and bicyclists) to and from the commercial developments. In addition, a 20 percent reduction was assumed for the A.M. peak-hour inbound and P.M. peak-hour outbound "Office Park" trips to account for the demand-reducing effects of the TDM/transit program measures.

As described in Section III, Project Description of this EIR, the project includes a development program with flexibility, allowing for a mix of land uses on the project site. As such, trip generation equivalency rates for the proposed uses have been calculated for the critical P.M. peak hour. In addition, a trip cap based on the trip generation resulting in the most significant traffic impacts (i.e., P.M. peak hour) has been established for the project. Taking into account internal and TDM trip reductions, but not taking credit for the existing driveway volumes, the trip cap for the PacifiCenter project is 5,586 P.M. peak-hour trips.[393]

(2) Trip Distribution

As described in the Traffic Impact Study Report presented in Appendix Q, all trips that were projected to begin or end at the project site were linked to appropriate destinations or origins. Data from the SCAG computerized transportation model were used to determine trip length and SCAG modeling procedures were followed to link the project trips to appropriate origins and destinations.[394] This transportation model was also used to estimate trip linkages for non-project trips within the project vicinity. Using the trip distribution results, traffic from the project and related projects was assigned to individual roadways within the study area. The model accounted for the level of congestion on each roadway and determined which travel path produced the shortest travel time for each trip. The computerized model assumes that drivers follow the most direct, rational path. In addition, the model determines separate travel route assignments for the A.M. and P.M. peak periods.

[393] *With the removal of the existing uses for the development of the project, the associated existing driveway volumes will cease to exist. Should the traffic volumes at the project driveways and access points be monitored to measure compliance with the trip cap, the existing driveway volumes would inherently be absent, leaving only the traffic related to the project itself.*

[394] *This model considers the land use patterns throughout Southern California to estimate current trip patterns. It also considers future land use growth patterns to determine how trip linkages and travel patterns may change over time.*

(3) Future Condition Assumptions

The SCAG transportation model was used to project traffic conditions in the study area for the 2020 No Project condition and the 2020 With Project Condition.[395] The 2020 No Project Condition was estimated by combining the incremental forecasted traffic growth from related projects in the study area with the existing traffic volumes. (Refer to the Traffic Impact Study Report provided in Appendix Q for a description of the related projects assumed in the study area). Only those street improvements now under construction or considered reasonably assured were assumed for the 2020 No Project condition. Improvements considered less assured or ones that may not be implemented by 2020 were not assumed. The following improvements are of particular relevance and were assumed for this analysis:

- An expanded HOV lane network on I-405, I-5, and SR-22 freeways;
- Improvements currently underway on Carson Street at Lakewood Boulevard; and
- Ongoing improvements to Spring Street between California Street and Long Beach Boulevard.
- Eastbound and westbound left-turn lanes on Wardlow Road at Orange Avenue

For the 2020 With Project condition, projected traffic volumes attributed to the PacifiCenter project were added to the 2020 Without Project condition. In addition, the new roadways that are proposed as part of the project were added to the model for the analysis of With Project conditions. The traffic growth as a result of the project was used to determine project-related traffic impacts.

b. Thresholds of Significance

In general, impacts to transportation, circulation, and parking would be considered significant if the project will:

[395] *The base SCAG network was modified to more accurately reflect the capacities and constraints of the transportation system in the project vicinity. A microcomputer model format was developed, into which additional roadway links were added to represent streets and highways in the area surrounding the project site. In addition, information regarding roadway geometrics, turning restrictions, traffic signal phasing, on-street parking, and other factors that may affect vehicle travel speeds and routes was entered into the model to replicate the current traffic conditions in the area surrounding the project site.*

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections); or

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.

In order to determine if the project exceeds any of the general thresholds listed above, more specific transportation, traffic, and parking thresholds are typically applied. According to City of Long Beach criteria, a significant impact associated with traffic at analyzed intersections would occur if:

- The project resulted in a worsening of the volume-to-capacity ratio by 0.020 or more and a final ("with project") LOS of E or F.

According to the CMP, a significant regional CMP impact would occur if:

- Implementation of the project increases the D/C ratio at a CMP location by 0.020 or more with a final LOS of F.

According to City of Long Beach criteria, a significant impact to residential street segments would occur if:

- The project contributed 500 or more net daily trips (total both directions) or 50 or more net hourly trips (total both directions) to a residential street segment.[396]

A significant impact to public transit service would occur if:

- The project resulted in a substantial increase in ridership on the existing public transit system, thereby necessitating improvement of the system to accommodate the additional demand; or

- The project conflicted with adopted policies, plans, or programs supporting alternative transportation.

[396] *The City of Long Beach has recommended this threshold for the analysis of residential street segments.*

A significant impact to bicycle and pedestrian circulation would occur if:

- The project would not be in compliance with applicable plans or regulations; or
- The project would disrupt existing bicycle or pedestrian routes.

A significant impact to parking would occur if:

- The project would result in inadequate parking capacity.

In addition the thresholds of significance listed above, Appendix G of the CEQA Guidelines includes other thresholds that are related to transportation and circulation. These thresholds state that significant impacts would occur if:

- The project would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; and
- The project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment.

c. Project Features

Development of the project will provide circulation improvements within and adjacent to the PacifiCenter site, as discussed in Section III, Project Description and shown on Figure 9 on page 127. Vehicular access is proposed at several locations around the site, including two new entry and exit points along Carson Street; one at First Street (west of Lakewood Boulevard and east of Lakewood Drive) and one between First Street and Lakewood Boulevard.[397] In addition, five access points will be provided along Lakewood Boulevard, including primary entrances at A Street (between Carson Street and Conant Street) and at Conant Street (referred to as B Street within the project site), and secondary entrances opposite Douglas Center Drive (between Carson Street and A Street) and between A Street and B Street. The existing access from Paramount Boulevard will be reconstructed/realigned to accommodate project-related traffic volumes

[397] *The proposed First Street will be offset to the east from Lakewood Drive and appropriate signage, median islands, and/or signalization will be provided to preclude site-generated traffic from traveling through the existing residential neighborhood north of Carson Street.*

and patterns. Additional right in/out access points may be provided. New traffic signals and off-site traffic improvements, such as left-turn lanes, will also be constructed.[398]

A series of streets within the project site are also proposed. Pursuant to the proposed Circulation Plan shown in Figure 9 on page 127 of Section III, Project Description, A Street and B Street, which will run in an east-west direction between Cover Street and Lakewood Boulevard and Conant Street, will provide primary access to the southern portion of the project site designated for commercial land uses. In addition, First Street and A Street will provide primary access to the housing area within the northern portion of the project site.[399] Two north-south roadways providing access between A Street and B Street (referred to as 2nd Street and 3rd Street) will also be provided. The new roadways will typically have two to four lanes with enhanced parkways and pedestrian improvements in key locations. Additional streets may also be developed to provide internal access throughout the site. The internal street system will generally be developed in accordance with an infrastructure phasing plan, as described in Section III, Project Description of this EIR. According to this plan, infrastructure for the housing uses will be developed during the initial construction phases. As residential development occurs in the northern portion of the site, infrastructure to support the commercial uses will be developed in four phases within the site's southern portion.

The project will also include a series of pedestrian and bicycle routes that will be incorporated into the internal circulation system. Pedestrian routes (i.e., sidewalks and crosswalks) will be provided along all of the proposed on-site roadways as well as on Lakewood Boulevard and Carson Street. Pedestrian walkways will also be provided adjacent to all local streets with the residential and commercial areas. Class I bike lane improvements will be provided along Carson Street between Lakewood Boulevard and First Street. In addition, Class II bike lane improvement will be provided on First Street (between Carson Street and A Street) and on A Street between First Street and Paramount Boulevard. Again, the entire internal circulation system is discussed in Section III, Project Description, and illustrated in Figure 9 on page 127.

On-site parking will be provided based on the type and intensity of uses to accommodate the demand generated by those uses. This parking will be provided in

[398] *Improvements to the existing access from Paramount Boulevard that are included as Project Features will tie in with Mitigation Measures V.L-8, V.L-9, and V.L-14, which are designed to provide additional accessibility and capacity enhancements to Cover Street and Cherry Avenue, thereby encouraging project access from these streets and discouraging access from Paramount Boulevard.*

[399] *Some of the secondary entrances may be privately gated at their access point into the housing area.*

surface, structured, and on-street spaces and will be designed to minimize walking distances for employees, residents, and visitors.

During construction of the project, all staging of materials and equipment will take place on the project site. Furthermore, adequate parking will be available on-site during construction of the project to accommodate all of the construction-related vehicles, including construction worker vehicles.

Finally, amendments to the Transportation Element of the City of Long Beach General Plan and the Long Beach Bicycle Master Plan are being proposed as part of the project. A discussion of these amendments are included in Section V.H, Land Use, of this EIR.

d. Analysis of Project Impacts

This section provides an analysis of the projected future 2020 cumulative base (no project) and cumulative plus project transportation/circulation and parking impacts.

(1) Intersection Impact Analysis

Trip generation equations based on the traffic-generating characteristics of the proposed land uses are included in the Traffic Impact Study Report presented in Appendix Q of this EIR. Taking into account internal capture and the project TDM program, as well as existing driveway volumes, it is estimated that the PacifiCenter project will generate a net increase of approximately 55,920 daily trips, including 4,482 A.M. peak-hour (inbound and outbound) and 5,427 P.M. peak-hour (inbound and outbound) trips.

Intersection levels of service for future (2020) conditions are included in Table 67 on page 694. This table includes traffic impacts both before and after implementation of TDM and mitigation measures. The PacifiCenter project will significantly impact 55 study intersections prior to implementation of proposed TDM and mitigation measures. Of these 55 impacted intersections, 24 will be significantly impacted in both the A.M. and P.M. peak hours. When combined with the intersections that are currently operating at unacceptable levels, a total of 79 study intersections will be operating at LOS E or F in one or both peak hours after project completion. With implementation of project TDM and mitigation measures, 60 of the 109 study intersections will be operating at unacceptable levels, as compared to 70 intersections that will be operating at unacceptable levels under future no project conditions. The mitigation measures will, either directly or indirectly, reduce significant project impacts at most of the intersections that will be affected by project implementation to less than significant levels by adding capacity or reducing traffic

Table 67

FUTURE (2020) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Future Without Project		Future With Project			Future With Project + TDM/Mitigation Measures		
			V/C	LOS	V/C	LOS	Impact	V/C	LOS	Impact
1	Rosecrans Avenue and	A.M.	0.878	D	0.890	D	0.012	0.863	D	-0.015
	Lakewood Boulevard	P.M.	1.116	F	1.132	F	0.016	1.098	F	-0.018
2	Alondra Boulevard and	A.M.	0.804	D	0.841	D	0.037	0.796	C	-0.008
	Paramount Boulevard	P.M.	0.957	E	1.013	F	0.056*	0.953	E	-0.004
3	Alondra Boulevard and	A.M.	0.893	D	0.932	E	0.039*	0.899	D	0.006
	Lakewood Boulevard	P.M.	1.099	F	1.126	F	0.027*	1.090	F	-0.009
4	Flower Street and	A.M.	0.712	C	0.750	C	0.038	0.676	B	-0.036
	Lakewood Boulevard	P.M.	0.851	D	0.884	D	0.033	0.801	D	-0.050
5	SR-91 W/B On/Off Ramps and	A.M.	0.584	A	0.588	A	0.004	0.548	A	-0.036
	Cherry Avenue	P.M.	0.650	B	0.656	B	0.006	0.606	B	-0.044
6	SR-91 E/B On/Off Ramps and	A.M.	0.571	A	0.587	A	0.016	0.543	A	-0.028
	Cherry Avenue	P.M.	0.626	B	0.638	B	0.012	0.608	B	-0.018
7	SR-91 W/B On/Off Ramps and	A.M.	0.654	B	0.707	C	0.053	0.659	B	0.005
	Paramount Boulevard	P.M.	0.803	D	0.835	D	0.032	0.793	C	-0.010
8	SR-91 E/B On/Off Ramps and	A.M.	0.656	B	0.738	C	0.082	0.672	B	0.016
	Paramount Boulevard	P.M.	0.804	D	0.874	D	0.070	0.810	D	0.006
9	SR-91 W/B On/Off Ramps and	A.M.	0.483	A	0.538	A	0.055	0.481	A	-0.002
	Lakewood Boulevard	P.M.	0.654	B	0.700	B	0.046	0.633	B	-0.021
10	SR-91 E/B On/Off Ramps and	A.M.	0.656	B	0.718	C	0.062	0.646	B	-0.010
	Lakewood Boulevard	P.M.	0.770	C	0.853	D	0.083	0.767	C	-0.003
11	Artesia Boulevard and	A.M.	0.978	E	0.994	E	0.016	0.904	E	-0.074
	Cherry Avenue	P.M.	1.236	F	1.245	F	0.009	1.162	F	-0.074
12	Artesia Boulevard and	A.M.	0.838	D	0.893	D	0.055*	0.820	D	-0.018
	Paramount Boulevard	P.M.	1.138	F	1.216	F	0.078*	1.138	F	0.000
13	Artesia Boulevard and	A.M.	1.069	F	1.134	F	0.065*	1.021	F	-0.048
	Lakewood Boulevard	P.M.	1.220	F	1.277	F	0.057*	1.152	F	-0.068
14	South Street and	A.M.	0.570	A	0.592	A	0.022	0.573	A	0.003
	Orange Avenue	P.M.	0.641	B	0.663	B	0.022	0.642	B	0.001
15	South Street and	A.M.	0.962	E	0.968	E	0.006	0.892	D	-0.070
	Cherry Avenue	P.M.	1.266	F	1.275	F	0.009	1.194	F	-0.072

Table 67 (Continued)

FUTURE (2020) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Future Without Project		Future With Project			Future With Project + TDM/Mitigation Measures		
			V/C	LOS	V/C	LOS	Impact	V/C	LOS	Impact
16	South Street and	A.M.	0.776	C	0.858	D	0.082	0.790	C	0.014
	Paramount Boulevard	P.M.	0.988	E	1.068	F	0.080*	0.995	E	0.007
17	South Street and	A.M.	0.838	D	0.938	E	0.100*	0.842	D	0.004
	Lakewood Boulevard	P.M.	1.215	F	1.316	F	0.101*	1.187	F	-0.028
18	South Street and	A.M.	0.849	D	0.874	D	0.025	0.846	D	-0.003
	Clark Avenue	P.M.	1.014	F	1.039	F	0.025*	1.005	F	-0.009
19	South Street and	A.M.	0.739	C	0.746	C	0.007	0.677	B	-0.062
	Bellflower Boulevard	P.M.	0.926	E	0.940	E	0.014	0.853	D	-0.073
20	Market Street and	A.M.	0.785	C	0.800	C	0.015	0.775	C	-0.010
	Long Beach Boulevard	P.M.	1.196	F	1.203	F	0.007	1.166	F	-0.030
21	Market Street and	A.M.	0.816	D	0.858	D	0.042	0.801	D	-0.015
	Cherry Avenue	P.M.	1.008	F	1.026	F	0.018	0.975	E	-0.033
22	Candlewood Street and	A.M.	0.658	B	0.785	C	0.127	0.693	B	0.035
	Paramount Boulevard	P.M.	0.809	D	0.915	E	0.106*	0.831	D	0.022
23	Candlewood Street and	A.M.	0.634	B	0.756	C	0.122	0.673	B	0.039
	Lakewood Boulevard	P.M.	0.906	E	1.002	F	0.096*	0.900	D	-0.006
24	Candlewood Street and	A.M.	0.703	C	0.705	C	0.002	0.685	B	-0.018
	Clark Avenue	P.M.	1.171	F	1.183	F	0.012	1.148	F	-0.023
25	Candlewood Street and	A.M.	0.908	E	0.916	E	0.008	0.831	D	-0.077
	Bellflower Boulevard	P.M.	1.225	F	1.230	F	0.005	1.118	F	-0.107
26	Del Amo Boulevard and	A.M.	0.791	C	0.807	D	0.016	0.782	C	-0.009
	Sante Fe Avenue	P.M.	1.282	F	1.293	F	0.011	1.254	F	-0.028
27	Del Amo Boulevard and	A.M.	0.994	E	1.021	F	0.027*	0.926	E	-0.068
	Long Beach Boulevard	P.M.	1.219	F	1.232	F	0.013	1.118	F	-0.101
28	Del Amo Boulevard and	A.M.	0.895	D	0.903	E	0.008	0.821	D	-0.074
	Atlantic Avenue	P.M.	1.162	F	1.169	F	0.007	1.062	F	-0.100
29	Del Amo Boulevard and	A.M.	0.971	E	0.989	E	0.018	0.896	D	-0.075
	Orange Avenue	P.M.	1.150	F	1.184	F	0.034*	1.073	F	-0.077
30	Del Amo Boulevard and	A.M.	1.023	F	1.068	F	0.045*	1.000	E	-0.023
	Cherry Avenue	P.M.	1.105	F	1.121	F	0.016	1.058	F	-0.047

Table 67 (Continued)

FUTURE (2020) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Future Without Project		Future With Project			Future With Project + TDM/Mitigation Measures		
			V/C	LOS	V/C	LOS	Impact	V/C	LOS	Impact
31	Del Amo Boulevard and	A.M.	0.948	E	1.079	F	0.131*	0.913	E	-0.035
	Paramount Boulevard	P.M.	0.971	E	1.117	F	0.146*	0.945	E	-0.026
32	Del Amo Boulevard and	A.M.	1.118	F	1.335	F	0.217*	1.053	F	-0.065
	Lakewood Boulevard	P.M.	1.275	F	1.441	F	0.166*	1.220	F	-0.055
33	Del Amo Boulevard and	A.M.	0.876	D	0.905	E	0.029*	0.820	D	-0.056
	Clark Avenue	P.M.	0.997	E	1.035	F	0.038*	0.937	E	-0.060
34	Del Amo Boulevard and	A.M.	1.006	F	1.031	F	0.025*	0.933	E	-0.073
	Bellflower Boulevard	P.M.	1.094	F	1.119	F	0.025*	1.014	F	-0.080
35	Del Amo Boulevard and	A.M.	0.900	D	0.949	E	0.049*	0.856	D	-0.044
	Woodruff Avenue	P.M.	1.018	F	1.056	F	0.038*	0.958	E	-0.060
36	Del Amo Boulevard and	A.M.	0.767	C	0.790	C	0.023	0.716	C	-0.051
	Palo Verde Avenue	P.M.	1.039	F	1.067	F	0.028*	0.967	E	-0.072
37	Del Amo Boulevard and	A.M.	0.812	D	0.842	D	0.030	0.762	C	-0.050
	Studebaker Road	P.M.	0.974	E	0.989	E	0.015	0.897	D	-0.077
38	Centralia Street and	A.M.	0.660	B	0.697	B	0.037	0.672	B	0.012
	Clark Avenue	P.M.	0.792	C	0.845	D	0.053	0.814	D	0.022
39	Centralia Street and	A.M.	0.547	A	0.560	A	0.013	0.507	A	-0.040
	Bellflower Boulevard	P.M.	0.647	B	0.658	B	0.011	0.597	A	-0.050
40	San Antonio Drive and	A.M.	0.745	C	0.783	C	0.038	0.707	C	-0.038
	Long Beach Boulevard	P.M.	1.164	F	1.175	F	0.011	1.066	F	-0.098
41	Carson Street and	A.M.	0.828	D	0.863	D	0.035	0.781	C	-0.047
	Atlantic Avenue	P.M.	0.934	E	0.965	E	0.031*	0.874	D	-0.060
42	Carson Street and	A.M.	0.725	C	0.773	C	0.048	0.697	B	-0.028
	Orange Avenue	P.M.	0.786	C	0.822	D	0.036	0.744	C	-0.042
43	Carson Street and	A.M.	0.864	D	0.908	E	0.044*	0.854	D	-0.010
	Cherry Avenue	P.M.	1.052	F	1.133	F	0.081*	1.021	F	-0.031
44	Carson Street and	A.M.	0.699	B	0.835	D	0.136	0.682	B	-0.017
	Paramount Boulevard	P.M.	1.104	F	1.368	F	0.264*	1.045	F	-0.059
45	Carson Street and	A.M.	0.835	D	1.085	F	0.250*	0.854	D	0.019
	Lakewood Boulevard	P.M.	0.934	E	1.170	F	0.236*	1.017	F	0.083*

Table 67 (Continued)

FUTURE (2020) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Future Without Project		Future With Project			Future With Project + TDM/Mitigation Measures		
			V/C	LOS	V/C	LOS	Impact	V/C	LOS	Impact
46	Carson Street and	A.M.	0.558	A	0.692	B	0.134	0.674	B	0.116
	Faculty Avenue[b]	P.M.	0.731	C	0.919	E	0.188*	0.899	D	0.168
47	Carson Street and	A.M.	0.758	C	0.843	D	0.085	0.757	C	-0.001
	Clark Avenue	P.M.	1.043	F	1.142	F	0.099*	1.028	F	-0.015
48	Carson Street and	A.M.	0.967	E	1.105	F	0.138*	0.857	D	-0.110
	Bellflower Boulevard	P.M.	1.146	F	1.236	F	0.090*	1.114	F	-0.032
49	Carson Street and	A.M.	0.768	C	0.839	D	0.071	0.754	C	-0.014
	Woodruff Avenue	P.M.	0.973	E	1.041	F	0.068*	0.940	E	-0.033
50	Carson Street and	A.M.	1.024	F	1.111	F	0.087*	1.000	E	-0.024
	Palo Verde Avenue	P.M.	1.096	F	1.146	F	0.050*	1.037	F	-0.059
51	Carson Street and	A.M.	0.807	D	0.830	D	0.023	0.751	C	-0.056
	Los Coyotes Diagonal	P.M.	1.093	F	1.124	F	0.031*	1.019	F	-0.074
52	Carson Street and	A.M.	0.518	A	0.537	A	0.019	0.485	A	-0.033
	I-605 SB Off-Ramp	P.M.	0.703	C	0.729	C	0.026	0.660	B	-0.043
53	Carson Street and	A.M.	0.608	B	0.615	B	0.007	0.558	A	-0.050
	I-605 NB On/Off Ramps	P.M.	0.685	B	0.700	B	0.015	0.635	B	-0.050
54	Carson Street and	A.M.	0.737	C	0.783	C	0.046	0.706	C	-0.031
	Pioneer Boulevard	P.M.	1.229	F	1.248	F	0.019	1.133	F	-0.096
55	Carson Street and	A.M.	0.877	D	0.895	D	0.018	0.867	D	-0.010
	Norwalk Boulevard	P.M.	1.177	F	1.204	F	0.027*	1.166	F	-0.011
56	Cover Street and	A.M.	0.510	A	0.629	B	0.119	0.640	B	0.130
	Paramount Boulevard	P.M.	0.545	A	0.578	A	0.033	0.768	C	0.223
57	Bixby Road and	A.M.	0.797	C	0.804	D	0.007	0.730	C	-0.067
	Atlantic Avenue	P.M.	0.810	D	0.817	D	0.007	0.743	C	-0.067
58	Bixby Road and	A.M.	0.778	C	0.789	C	0.011	0.765	C	-0.013
	Orange Avenue	P.M.	0.822	D	0.828	D	0.006	0.804	D	-0.018
59	Bixby Road and	A.M.	0.679	B	0.777	C	0.098	0.707	C	0.028
	Cherry Avenue	P.M.	0.704	C	0.830	D	0.126	0.774	C	0.070
60	Conant Street/B Street and	A.M.	0.551	A	1.367	F	0.816*	0.936	E	0.385*
	Lakewood Boulevard	P.M.	0.581	A	1.201	F	0.620*	0.888	D	0.307

Table 67 (Continued)

FUTURE (2020) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Future Without Project		Future With Project			Future With Project + TDM/Mitigation Measures		
			V/C	LOS	V/C	LOS	Impact	V/C	LOS	Impact
61	Conant Street and	A.M.	0.371	A	0.734	C	0.363	0.668	B	0.297
	Clark Avenue	P.M.	0.385	A	0.397	A	0.012	0.384	A	-0.001
62	Conant Street and	A.M.	0.521	A	0.669	B	0.148	0.588	A	0.067
	Bellflower Boulevard	P.M.	0.625	B	0.631	B	0.006	0.573	A	-0.052
63	Wardlow Road and	A.M.	1.011	F	1.024	F	0.013	0.928	E	-0.083
	Atlantic Avenue	P.M.	1.040	F	1.067	F	0.027*	0.967	E	-0.073
64	Wardlow Road and	A.M.	0.822	D	0.861	D	0.039	0.827	D	0.005
	Orange Avenue	P.M.	0.865	D	0.900	D	0.035	0.870	D	0.005
65	Wardlow Road and	A.M.	1.115	F	1.145	F	0.030*	0.835	D	-0.280
	Cherry Avenue	P.M.	1.175	F	1.246	F	0.071*	0.965	E	-0.210
66	Wardlow Road/D. Douglas Dr.	A.M.	0.852	D	0.946	E	0.094*	0.849	D	-0.003
	and Lakewood Boulevard	P.M.	0.722	C	0.995	E	0.273*	0.879	D	0.157
67	Wardlow Road and	A.M.	0.598	A	0.690	B	0.092	0.659	B	0.061
	Clark Avenue	P.M.	0.562	A	0.740	C	0.178	0.699	B	0.137
68	Wardlow Road and	A.M.	0.835	D	0.882	D	0.047	0.797	C	-0.038
	Bellflower Boulevard	P.M.	1.003	F	1.120	F	0.117*	1.007	F	0.004
69	Wardlow Road and	A.M.	0.829	D	0.876	D	0.047	0.844	D	0.015
	Woodruff Avenue	P.M.	0.808	D	0.873	D	0.065	0.841	D	0.033
70	Wardlow Road and	A.M.	0.627	B	0.667	B	0.040	0.643	B	0.016
	Palo Verde Avenue	P.M.	0.749	C	0.793	C	0.044	0.766	C	0.017
71	Wardlow Road and	A.M.	0.791	C	0.820	D	0.029	0.793	C	0.002
	Studebaker Road	P.M.	0.865	D	0.901	E	0.036*	0.871	D	0.006
72	Spring Street and	A.M.	1.081	F	1.087	F	0.006	0.988	E	-0.093
	Atlantic Avenue	P.M.	1.349	F	1.353	F	0.004	1.230	F	-0.119
73	Spring Street and	A.M.	0.837	D	0.842	D	0.005	0.765	C	-0.072
	Orange Avenue	P.M.	0.918	E	0.931	E	0.013	0.845	D	-0.073
74	Spring Street and	A.M.	0.857	D	0.882	D	0.025	0.799	C	-0.058
	Cherry Avenue	P.M.	1.010	F	1.037	F	0.027*	0.940	E	-0.070
75	Spring Street and	A.M.	0.752	C	0.776	C	0.024	0.702	C	-0.050
	I-405 Southbound Off-Ramp	P.M.	0.888	D	0.905	E	0.017	0.821	D	-0.067

Table 67 (Continued)

FUTURE (2020) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Future Without Project		Future With Project			Future With Project + TDM/Mitigation Measures		
			V/C	LOS	V/C	LOS	Impact	V/C	LOS	Impact
76	Spring Street and	A.M.	0.701	C	0.793	C	0.092	0.654	B	-0.047
	Temple Avenue	P.M.	1.140	F	1.140	F	0.000	1.037	F	-0.103
77	Spring Street and	A.M.	0.628	B	0.646	B	0.018	0.585	A	-0.043
	Redondo Avenue	P.M.	0.895	D	0.936	E	0.041*	0.847	D	-0.048
78	Spring Street and	A.M.	1.023	F	1.169	F	0.146*	1.046	F	0.023*
	Lakewood Boulevard	P.M.	0.989	E	1.264	F	0.275*	1.123	F	0.134*
79	Spring Street and	A.M.	0.643	B	0.707	C	0.064*	0.637	B	-0.006
	Clark Avenue	P.M.	0.879	D	0.987	E	0.108*	0.887	D	0.008
80	Spring Street and	A.M.	0.961	E	0.992	E	0.031*	0.897	D	-0.064
	Bellflower Boulevard	P.M.	1.157	F	1.210	F	0.053*	1.095	F	-0.062
81	Spring Street and	A.M.	0.900	D	0.908	E	0.008	0.825	D	-0.075
	Los Coyotes Diagonal	P.M.	0.919	E	0.940	E	0.021*	0.853	D	-0.066
82	Spring Street and	A.M.	0.843	D	0.851	D	0.008	0.773	C	-0.070
	Woodruff Avenue	P.M.	0.792	C	0.813	D	0.021	0.737	C	-0.055
83	Spring Street and	A.M.	0.799	C	0.810	D	0.011	0.735	C	-0.064
	Palo Verde Avenue	P.M.	0.999	E	1.021	F	0.022*	0.926	E	-0.073
84	Spring Street and	A.M.	0.949	E	0.952	E	0.003	0.865	D	-0.084
	Studebaker Road	P.M.	1.076	F	1.087	F	0.011	0.987	E	-0.089
85	Willow Street and	A.M.	0.891	D	0.906	E	0.015	0.823	D	-0.068
	Atlantic Avenue	P.M.	1.129	F	1.143	F	0.014	1.037	F	-0.092
86	Willow Street and	A.M.	0.890	D	0.904	E	0.014	0.820	D	-0.070
	Orange Avenue	P.M.	0.905	E	0.919	E	0.014	0.835	D	-0.070
87	Willow Street and	A.M.	0.909	E	0.915	E	0.006	0.832	D	-0.077
	Cherry Avenue	P.M.	1.123	F	1.147	F	0.024*	1.041	F	-0.082
88	Willow Street and	A.M.	0.700	B	0.704	C	0.004	0.640	B	-0.060
	Redondo Avenue	P.M.	0.901	E	0.934	E	0.033*	0.846	D	-0.055
89	Willow Street and	A.M.	0.918	E	0.940	E	0.022*	0.851	D	-0.067
	Lakewood Boulevard	P.M.	1.101	F	1.174	F	0.073*	1.060	F	-0.041
90	Willow Street and	A.M.	1.011	F	1.032	F	0.021*	0.936	E	-0.075
	Clark Avenue	P.M.	0.784	C	0.835	D	0.051	0.754	C	-0.030

Table 67 (Continued)

FUTURE (2020) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Future Without Project		Future With Project			Future With Project + TDM/Mitigation Measures		
			V/C	LOS	V/C	LOS	Impact	V/C	LOS	Impact
91	I-405 N/B Off Ramp and	A.M.	0.413	A	0.432	A	0.019	0.390	A	-0.023
	Bellflower Boulevard	P.M.	0.517	A	0.526	A	0.009	0.477	A	-0.040
92	Willow Street and	A.M.	0.950	E	0.959	E	0.009	0.870	D	-0.080
	Bellflower Boulevard	P.M.	1.027	F	1.035	F	0.008	0.940	E	-0.087
93	Hill Street and	A.M.	0.576	A	0.625	B	0.049	0.563	A	-0.013
	Cherry Avenue	P.M.	0.810	D	0.824	D	0.014	0.748	C	-0.062
94	Stearns Street and	A.M.	0.683	B	0.689	B	0.006	0.668	B	-0.015
	Redondo Avenue	P.M.	0.684	B	0.688	B	0.004	0.668	B	-0.016
95	Stearns Street and	A.M.	0.899	D	0.933	E	0.034*	0.844	D	-0.055
	Lakewood Boulevard	P.M.	1.058	F	1.146	F	0.088*	1.034	F	-0.024
96	Stearns Street/Clark Ave and	A.M.	1.053	F	1.106	F	0.053*	1.067	F	0.014
	Los Coyotes Diagonal	P.M.	1.458	F	1.486	F	0.028*	1.439	F	-0.019
97	Pacific Coast Highway and	A.M.	0.907	E	0.910	E	0.003	0.834	D	-0.073
	Orange Avenue	P.M.	0.898	D	0.904	E	0.006	0.829	D	-0.069
98	Pacific Coast Highway and	A.M.	1.109	F	1.175	F	0.066*	1.060	F	-0.049
	Cherry Avenue	P.M.	1.342	F	1.357	F	0.015	1.233	F	-0.109
99	Pacific Coast Highway and	A.M.	1.179	F	1.206	F	0.027*	1.167	F	-0.012
	Redondo Avenue	P.M.	1.177	F	1.235	F	0.058*	1.193	F	0.016
100	Ximeno Avenue and	A.M.	0.986	E	1.006	F	0.020*	0.974	E	-0.012
	Pacific Coast Highway	P.M.	0.882	D	0.888	D	0.006	0.862	D	-0.020
101	Anaheim Street and	A.M.	0.889	D	0.908	E	0.019	0.879	D	-0.010
	Redondo Avenue	P.M.	1.256	F	1.293	F	0.037*	1.252	F	-0.004
102	Seventh Street and	A.M.	0.910	E	0.913	E	0.003	0.886	D	-0.024
	Alamitos Avenue	P.M.	0.881	D	0.884	D	0.003	0.858	D	-0.023
103	Seventh Street and	A.M.	0.943	E	0.964	E	0.021*	0.934	E	-0.009
	Redondo Avenue	P.M.	1.132	F	1.155	F	0.023*	1.119	F	-0.013
104	Seventh Street and	A.M.	1.038	F	1.062	F	0.024*	1.028	F	-0.010
	Pacific Coast Highway	P.M.	1.123	F	1.148	F	0.025*	1.111	F	-0.012
105	Douglas Center Drive/Project	A.M.	0.635	B	0.897	D	0.262	0.768	C	0.133
	Access and Lakewood Blvd	P.M.	0.651	B	0.832	D	0.181	0.739	C	0.088

Table 67 (Continued)

FUTURE (2020) INTERSECTION LEVEL OF SERVICE CONDITIONS

No.	Intersection	Peak Hour	Future Without Project		Future With Project			Future With Project + TDM/Mitigation Measures		
			V/C	LOS	V/C	LOS	Impact	V/C	LOS	Impact
106	A Street and	A.M.	N/A		1.013	F	N/A*	0.784	C	N/A
	Lakewood Boulevard [a]	P.M.	N/A		0.977	E	N/A*	0.781	C	N/A
107	Carson Street and	A.M.	0.441	A	0.449	A	0.008	0.444	A	0.003
	Lakewood Drive [b]	P.M.	0.530	A	0.591	A	0.061	0.582	A	0.052
108	Cover Street and	A.M.	0.549	A	0.628	B	0.079	0.591	A	0.042
	Cherry Avenue [b]	P.M.	0.906	E	0.917	E	0.011	0.682	B	-0.224
109	Carson Street and	A.M.	N/A		0.590	A	N/A	0.511	A	N/A
	First Street [a, b]	P.M.	N/A		0.883	D	N/A	0.771	C	N/A

* *Denotes a significant project impact.*

[a] *This intersection does not exist, but will be created with the development of the project.*

[b] *This intersection currently is not signalized, although signalization has been assumed for analysis purposes.*

Source: Crain & Associates, January 2004.

volumes in the area surrounding the project site. However, significant project impacts will remain after implementation of mitigation measures at three study intersections. The intersections that will be significantly impacted after mitigation are: (1) Carson Street and Lakewood Boulevard; (2) Conant Street/B Street and Lakewood Boulevard; and (3) Spring Street and Lakewood Boulevard, which will be significantly impacted in both peak periods.[400]

(2) Freeway Segment Impact Analysis

Per the Land Use Analysis Program of the CMP, the project's potential impacts on the regional transportation system were analyzed. Based on preliminary analyses, I-405 and SR-91 are the two regional facilities that are expected to be the most affected by project traffic and were recommended for analysis by Caltrans. Traffic impacts on these freeways within the project vicinity are indicated in Table 68 on page 702. The addition of

[400] *It should be noted that impacts are overstated, due to the assumption that all employees at the project site will also continue to work at the jobs they otherwise hold. As an example, the analysis does not account for the fact that some people who currently commute to downtown Los Angeles will instead be employed at the project site.*

Table 68

FREEWAY SEGMENT DEMAND/CAPACITY AND LEVEL OF SERVICE FUTURE (2020) TRAFFIC CONDITIONS

Freeway Segment	Peak Hour	Direction	Freeway Capacity	Future Without Project: Daily Demand	Future Without Project: Peak-Hour Demand	Future Without Project: D/C Ratio	Future Without Project: LOS	Future With Project: Daily Demand	Future With Project: Peak-Hour Demand	Future With Project: D/C Ratio	Future With Project: LOS	Future With Project: Project Impact	Future With Project + TDM/Mitigation Measures: Daily Demand	Future With Project + TDM/Mitigation Measures: Peak-Hour Demand	Future With Project + TDM/Mitigation Measures: D/C Ratio	Future With Project + TDM/Mitigation Measures: LOS	Future With Project + TDM/Mitigation Measures: Project Impact
San Diego Freeway																	
1 San Diego Freeway (I-405) s/o Route 110 at Carson Scales (CMP Station)	A.M.	N/B	9,600	269,600	10,780	1.123	F	274,100	10,861	1.131	F	0.008	273,600	10,851	1.130	F	0.007
		S/B	9,600		8,300	0.865	D		8,513	0.887	D	0.022		8,486	0.884	D	0.019
	P.M.	N/B	9,600		8,900	0.927	D		9,156	0.954	E	0.027		9,129	0.951	E	0.024
		S/B	9,600		10,570	1.101	F		10,665	1.111	F	0.010		10,655	1.110	F	0.009
2 San Diego Freeway (I-405) at Santa Fe Ave (CMP Station)	A.M.	N/B	7,600	312,600	10,700	1.408	F	319,800	10,817	1.423	F	0.015	318,900	10,802	1.421	F	0.013
		S/B	7,600		9,760	1.284	F		10,086	1.327	F	0.043*		10,044	1.322	F	0.038**
	P.M.	N/B	7,600		10,140	1.334	F		10,506	1.382	F	0.048*		10,467	1.377	F	0.043**
		S/B	7,600		10,750	1.414	F		10,891	1.433	F	0.019		10,876	1.431	F	0.017
3 San Diego Freeway (I-405) betw. I-710 and Atlantic Ave	A.M.	N/B	9,600	303,400	12,510	1.303	F	311,400	12,660	1.319	F	0.016	310,400	12,641	1.317	F	0.014
		S/B	9,600		10,080	1.050	F		10,442	1.088	F	0.038*		10,396	1.083	F	0.033**
	P.M.	N/B	9,600		11,450	1.193	F		11,972	1.247	F	0.054*		11,916	1.241	F	0.048**
		S/B	9,600		11,850	1.234	F		12,021	1.252	F	0.018		12,003	1.250	F	0.016
4 San Diego Freeway (I-405) betw. Atlantic Ave and Cherry Ave	A.M.	N/B	9,600	307,400	10,180	1.060	F	315,400	10,289	1.072	F	0.012	314,500	10,275	1.070	F	0.010
		S/B	9,600		10,500	1.094	F		10,880	1.133	F	0.039*		10,831	1.128	F	0.034**
	P.M.	N/B	9,600		10,080	1.050	F		10,512	1.095	F	0.045*		10,466	1.090	F	0.040**
		S/B	9,600		11,480	1.196	F		11,659	1.214	F	0.018		11,640	1.213	F	0.017
5 San Diego Freeway (I-405) betw. Cherry Ave and Lakewood Blvd	A.M.	N/B	9,600	297,300	10,670	1.111	F	301,300	10,786	1.124	F	0.013	300,800	10,771	1.122	F	0.011
		S/B	9,600		10,030	1.045	F		10,034	1.045	F	0.000		10,033	1.045	F	0.000
	P.M.	N/B	9,600		9,550	0.995	E		9,994	1.041	F	0.046*		9,946	1.036	F	0.041**
		S/B	9,600		11,890	1.239	F		11,891	1.239	F	0.000		11,891	1.239	F	0.000
6 San Diego Freeway (I-405) betw. Lakewood Blvd and Bellflower Blvd	A.M.	N/B	9,600	295,500	9,690	1.009	F	298,100	9,691	1.009	F	0.000	297,800	9,691	1.009	F	0.000
		S/B	9,600		8,430	0.878	D		8,520	0.888	D	0.010		8,508	0.886	D	0.008
	P.M.	N/B	9,600		8,540	0.890	D		8,540	0.890	D	0.000		8,540	0.890	D	0.000
		S/B	9,600		10,160	1.058	F		10,397	1.083	F	0.025*		10,372	1.080	F	0.022**
7 San Diego Freeway (I-405) betw. Bellflower Blvd and Woodruff Ave	A.M.	N/B	9,600	282,700	10,390	1.082	F	291,100	10,705	1.115	F	0.033	290,100	10,665	1.111	F	0.029**
		S/B	9,600		8,440	0.879	D		8,607	0.897	D	0.018		8,586	0.894	D	0.015
	P.M.	N/B	9,600		9,740	1.015	F		9,949	1.036	F	0.021*		9,927	1.034	F	0.019
		S/B	9,600		9,520	0.992	E		9,958	1.037	F	0.045*		9,911	1.032	F	0.040**
8 San Diego Freeway (I-405) betw. Woodruff Ave and Studebaker Rd	A.M.	N/B	9,600	282,100	9,870	1.028	F	291,300	10,280	1.071	F	0.043*	290,200	10,228	1.065	F	0.037**
		S/B	9,600		8,520	0.888	D		8,686	0.905	D	0.017		8,665	0.903	D	0.015
	P.M.	N/B	9,600		8,310	0.866	D		8,515	0.887	D	0.021		8,493	0.885	D	0.019
		S/B	9,600		10,520	1.096	F		10,953	1.141	F	0.045*		10,907	1.136	F	0.040**

Table 68 (Continued)

FREEWAY SEGMENT DEMAND/CAPACITY AND LEVEL OF SERVICE FUTURE (2020) TRAFFIC CONDITIONS

					Future Without Project				Future With Project					Future With Project + TDM/Mitigation Measures				
	Freeway Segment	Peak Hour	Direction	Freeway Capacity	Daily Demand	Peak-Hour Demand	D/C Ratio	LOS	Daily Demand	Peak-Hour Demand	D/C Ratio	LOS	Project Impact	Daily Demand	Peak-Hour Demand	D/C Ratio	LOS	Project Impact
9	San Diego Freeway (I-405)	A.M.	N/B	7,600	294,200	10,460	1.376	F	302,100	10,819	1.424	F	0.048*	301,200	10,773	1.418	F	0.042**
	n/o Route 22		S/B	9,600		9,530	0.993	E		9,681	1.008	F	0.015		9,662	1.006	F	0.013
	(CMP Station)	P.M.	N/B	7,600		9,400	1.237	F		9,587	1.261	F	0.024*		9,567	1.259	F	0.022**
			S/B	9,600		10,930	1.139	F		11,320	1.179	F	0.040*		11,278	1.175	F	0.036**
	Artesia Freeway																	
10	Artesia Freeway (SR-91)	A.M.	E/B	11,600	227,600	12,590	1.085	F	228,400	12,647	1.090	F	0.005	228,300	12,640	1.090	F	0.005
	e/o Alameda St / Santa Fe Ave		W/B	11,600		6,550	0.565	C		6,559	0.565	C	0.000		6,558	0.565	C	0.000
	(CMP Station)	P.M.	E/B	11,600		8,520	0.734	C		8,546	0.737	C	0.003		8,543	0.736	C	0.002
			W/B	11,600		10,640	0.917	D		10,681	0.921	D	0.004		10,677	0.920	D	0.003
11	Artesia Freeway (SR-91)	A.M.	E/B	9,600	278,900	12,160	1.267	F	281,300	12,371	1.289	F	0.022*	281,000	12,344	1.286	F	0.019
	betw. I-710 and Cherry Ave		W/B	9,600		11,790	1.228	F		11,822	1.231	F	0.003		11,818	1.231	F	0.003
		P.M.	E/B	9,600		10,620	1.106	F		10,711	1.116	F	0.010		10,701	1.115	F	0.009
			W/B	9,600		13,330	1.389	F		13,404	1.396	F	0.007		13,396	1.395	F	0.006
12	Artesia Freeway (SR-91)	A.M.	E/B	9,600	283,300	11,500	1.198	F	285,400	11,652	1.214	F	0.016	285,100	11,633	1.212	F	0.014
	betw. Cherry Ave and Paramount Blvd		W/B	9,600		11,150	1.161	F		11,181	1.165	F	0.004		11,177	1.164	F	0.003
	(CMP Station)	P.M.	E/B	9,600		10,040	1.046	F		10,121	1.054	F	0.008		10,112	1.053	F	0.007
			W/B	9,600		12,600	1.313	F		12,668	1.320	F	0.007		12,661	1.319	F	0.006
13	Artesia Freeway (SR-91)	A.M.	E/B	9,600	271,300	12,210	1.272	F	272,600	12,291	1.280	F	0.008	272,500	12,281	1.279	F	0.007
	betw. Paramount Blvd and Lakewood Blvd		W/B	9,600		9,450	0.984	E		9,478	0.987	E	0.003		9,474	0.987	E	0.003
		P.M.	E/B	9,600		10,000	1.042	F		10,054	1.047	F	0.005		10,048	1.047	F	0.005
			W/B	9,600		11,660	1.215	F		11,708	1.220	F	0.005		11,703	1.219	F	0.004
14	Artesia Freeway (SR-91)	A.M.	E/B	9,600	273,500	10,490	1.093	F	276,900	10,567	1.101	F	0.008	276,500	10,557	1.100	F	0.007
	betw. Lakewood Blvd and Bellflower Blvd		W/B	9,600		10,840	1.129	F		10,999	1.146	F	0.017		10,979	1.144	F	0.015
		P.M.	E/B	9,600		9,480	0.988	E		9,693	1.010	F	0.022*		9,670	1.007	F	0.019
			W/B	9,600		11,850	1.234	F		11,928	1.243	F	0.009		11,920	1.242	F	0.008
15	Artesia Freeway (SR-91)	A.M.	E/B	7,600	289,800	9,800	1.289	F	291,000	9,828	1.293	F	0.004	290,900	9,824	1.293	F	0.004
	betw. Norwalk Blvd and Pioneer Blvd		W/B	7,600		11,090	1.459	F		11,143	1.466	F	0.007		11,136	1.465	F	0.006
	(CMP Station)	P.M.	E/B	7,600		9,550	1.257	F		9,613	1.265	F	0.008		9,606	1.264	F	0.007
			W/B	7,600		11,340	1.492	F		11,370	1.496	F	0.004		11,367	1.496	F	0.004

* *Denotes a significant project impact prior to additional mitigation considerations.*

** *Denotes a significant project impact after implementation of mitigation measures. However, the mitigation measures and features proposed as part of the project will result in an overall improvement to the regional traffic system.*

Source: Crain & Associates, January 2004.

project traffic will exacerbate these already congested freeway segments. The project will have significant impacts (i.e., D/C ratio increase of 0.020 or more with a final LOS of E or F) prior to implementation of proposed mitigation measures on eight of the nine I-405 mainline segments analyzed, including two of the three CMP locations. Of the 18 on-ramps analyzed for this freeway, one will be significantly impacted by the project. The impacted ramp will be the northbound on-ramp from southbound Lakewood Boulevard during the P.M. peak hour. Impacts to the I-405 mainline will remain significant with implementation of proposed mitigation measures. On SR-91, the project will significantly impact two mainline segments prior to mitigation (the eastbound segment between I-710 and Cherry Avenue will experience a significant project impact during the A.M. peak hour and the eastbound segment between Lakewood Boulevard and Bellflower Boulevard will experience a significant impact during the P.M. peak hour). These impacts to SR-91 would be mitigated to less than significant levels. As described in the Traffic Impact Study Report presented in Appendix Q, none of the analyzed on-ramps of SR-91 will be significantly impacted by the project.

It can be expected that continuing growth throughout the Los Angeles Basin will cause significant deterioration on all of the freeways in the general area, not just those discussed herein. Corrections of conditions such as these are addressed by a variety of measures in the CMP. The CMP credits and debits analysis, included in Appendix Q, indicates that the project's contribution to these measures would total at least 164,688 credit points, well in excess of the estimated 38,270 debit points resulting from development of the project.[401] Therefore, based on the CMP credit/debit analysis, the project can be considered to have a less than significant impact on the regional system as the project will fund, or cause to be funded, extensive area-wide mitigation measures as described in the Mitigation Measures section that will result in greater benefit than impact on the regional transportation system. These measures will improve conditions on the area-wide arterial streets, thereby allowing vehicles to better use these facilities without further overburdening the freeways. In addition, the voluntary measure to construct improvements on the Cherry Avenue on-ramp to I-405 will further ease the condition of the regional system. Thus, the project can be deemed to have reduced its regional traffic impacts to a less than significant level by the mitigation attributable to the project's area-wide measures, as promoted by the CMP and its credit/debit analysis. However, although the credit/debit analysis indicates that the project will result in an overall benefit to the regional transportation system, and the proposed mitigation measures will further improve conditions, since the future with project (including TDM and mitigation measures) condition

[401] *The CMP credit and debit analysis is a means of determining whether a project, with mitigation, would have a greater benefit or impact on the regional transportation system. Impacts are calculated in terms of net CMP debits and credits.*

will result in a D/C ratio increase of 0.020 or more with a final LOS of F on eight of the I-405 mainline segments analyzed, the project's impacts on these freeway segments are considered significant.

(3) Residential Street Impact Analysis

A traffic volume comparison was performed for five residential street segments in the project area. Table 69 on page 706 outlines the projected traffic volumes for these street segments in the year 2020 both with and without the project and the project TDM mitigation measure. As indicated on the table, implementation of the project will increase traffic by more than 500 net daily trips and 50 net peak-hour trips on three residential street segments: (1) Conant Street between Clark Avenue and Bellflower Boulevard; (2) Bixby Road between Orange Avenue and Cherry Avenue; and (3) Clark Avenue between Arbor Road and Centralia Street, thereby resulting in a significant impact on these street segments. Specifically, the project will add 265 A.M. peak-hour trips and 1,450 daily trips to Conant Street between Clark Avenue and Bellflower Boulevard. On Bixby Road between Orange Avenue and Cherry Avenue, the project will add 98 trips during the P.M. peak hour and 650 daily trips. Finally, the project will add 53 A.M. peak-hour trips, 73 P.M. peak-hour trips, and 630 daily trips on Clark Avenue between Arbor Road and Centralia Street.

Mitigation measures described below include the provision of funding for the implementation of neighborhood traffic management measures to mitigate traffic intrusion conditions. Such measures could include speed bumps, additional stop signs, peak period turning prohibitions, "right turn on red" prohibitions, retiming of traffic signals, architectural neighborhood identification monuments or gates, or round-a-bout traffic circles. While neighborhood traffic management measures such as these can reduce the impacts on the residential street segments to less than significant levels, should the jurisdictions fail or be unable to implement acceptable and adequate measures, some or all of these project impacts will remain significant.

(4) CMP Transit Impact Analysis

The project is expected to increase usage of LBT bus routes operating near the project site and to add new riders to the Metro Blue Line Light Rail Transit, due to demand generated by residents, employees, and patrons of the PacifiCenter project. Based on transit analysis guidelines included in the CMP, it is estimated that approximately 253 net person trips during the A.M. peak hour (184 inbound and 69 outbound) and 299 net person trips during the P.M. peak hour (93 inbound and 206 outbound) will be added to the existing fixed route transit services. The daily total will be approximately 2,807 net person

Table 69

RESIDENTIAL STREET SEGMENTS FUTURE (2020) TRAFFIC VOLUMES AND IMPACTS

Segment	Period	Without Project	With Project	Project Volume (Net)	Project Percent	With Project + TDM	Project Volume (Net)	Project Percent
Conant St. between	A.M. Peak Hour	174	439	265*	60%	405	231 [a]	57%
Clark Av. & Bellflower Blvd.	P.M. Peak Hour	191	215	24	11%	212	21	10%
	Daily	2,340	3,790	1,450*	38%	3,580	1,240 [a]	35%
Bixby Rd. between	A.M. Peak Hour	341	373	32	9%	369	28	8%
Orange Av. & Cherry Av.	P.M. Peak Hour	397	495	98*	20%	485	88 [a]	18%
	Daily	4,340	4,990	650*	13%	4,910	570 [a]	12%
Clark Av. Between	A.M. Peak Hour	1,209	1,262	53*	4%	1,255	46	4%
Arbor Rd. & Centralia St.	P.M. Peak Hour	1,991	2,064	73*	4%	2,056	65 [a]	3%
	Daily	20,540	21,170	630*	3%	21,070	530 [a]	3%
Lakewood Dr. between	A.M. Peak Hour	165	168	3	2%	167	2	1%
Ann Arbor Rd. &	P.M. Peak Hour	160	176	16	9%	174	14	8%
Carson St.	Daily	1,460	1,560	100	6%	1,550	90	6%
28th St. between	A.M. Peak Hour	200	206	6	3%	205	5	2%
Clark Av. & Bellflower Blvd.	P.M. Peak Hour	190	197	7	4%	197	7	4%
	Daily	2,220	2,290	70	3%	2,280	60	3%

* *Denotes a significant project impact.*

[a] *As the specific neighborhood traffic management measures for which the project will provide funding will be identified by the appropriate jurisdiction(s), the level of impact after implementation of these improvements cannot be quantified. Therefore, these numbers account only for the TDM and thus, indicate a remaining significant impact.*

Source: Crain & Associated, January 2004.

trips. The CMP does not provide guidance as to what constitutes a significant transit service impact. LBT reports that it currently has the rolling stock and facilities to absorb a moderate increase in demand generated by the PacifiCenter project.[402] In addition, the project will provide several services that are specifically targeted to increase the transit friendliness of the project and facilitate public transit use, which may include incorporation of a centralized transit information board on-site, on-site transit pass sales, and the implementation of a shuttle system. As such, a less than significant impact to transit will occur.

(5) Bicycle and Pedestrian Impact Analysis

The City of Long Beach plans to make a number of near- and long-term improvements to its bikeway system, per the Long Beach Bicycle Master Plan to increase the connectivity and safety of the existing bikeway network. In keeping with the intent of the Bicycle Master Plan concept, the project will continue to provide a Class I bike lane along a portion of Carson Street, and Class II bike lane improvements will be provided within the site that will connect with the Carson Street bike lane as well as with Paramount Boulevard. From Paramount Boulevard, the bike lane will connect to the bikeway alignment on Cover Street, which will extend westerly to Bixby Road and Cherry Avenue. Implementation of the project may result in the removal of a portion of the existing Class I bike route on Carson Street. However, this portion of the bike route will be replaced with a bike lane that will be provided within the project site as part of the project. Therefore, no significant impact to the bicycle circulation system will occur.

The pedestrian environment on the PacifiCenter site and in the project vicinity will be enhanced with implementation of the proposed project. As previously discussed, pedestrian routes will be developed throughout the site, many of which will continue to link the project to the surrounding area. In addition, clear pedestrian access to the on-site buildings and amenities will be provided. As such, no significant impact associated with pedestrian access will occur.

(6) Parking Demand Analysis

The City of Long Beach Municipal Code, Section 21.41.216, sets forth the number of parking spaces required for specific land uses throughout the City. As stated in the section, parking spaces required for multiple uses on a lot are to be calculated separately for each use and the parking required is the sum of the spaces required for each use.

[402] *Richard Stillwell, Long Beach Transit, personal communication, September 2001.*

Table 70 on page 709 outlines the Long Beach Municipal Code requirements for some of the land uses that may be developed as part of the project.

As discussed in the Traffic Impact Study Report included as Appendix Q of this EIR, it is estimated that approximately 13,000 to 13,400 parking spaces will be required by Code for the PacifiCenter project. Pursuant to Section 21.41.223 of the Long Beach Municipal Code, joint use of parking facilities can occur when two or more uses share a parking facility and when the uses demonstrate by a signed affidavit that the hours of their demand for parking do not overlap, or only partially overlap. Such shared parking can then occur through the approval of an administrative use permit by the Zoning Administrator. Therefore, it is anticipated that the amount of parking spaces actually provided will be less than the amount that is required by Code due to the effects of shared parking and measures to reduce trips generated by the project.[403] By appropriately taking into account the potential for shared parking to occur at mixed-use projects such as PacifiCenter, it is possible to provide sufficient parking to serve all of the uses that is less than the sum of the peak parking required of each individual use.

Parking will be provided on-site to accommodate the demand generated by the proposed project uses. The parking supply will be designed to minimize internal traffic and disruption to the street system, as well as walking distances for employees, residents, and visitors. The amount of parking provided on each development parcel will generally correspond to the type and intensity of uses proposed on that parcel and may include surface, structured, and on-street parking.[404] Parking will be provided at the time each development is constructed. In addition, where shared parking is proposed, the use of such parking will be justified and approved prior to the issuance of building permits for each individual development, pursuant to Section 21.41.223 of the Long Beach Municipal Code and Mitigation Measure V.L-21. When taking into account shared parking, as allowed by Code, the project will provide adequate parking to serve the proposed uses as well as to satisfy parking requirements included in the Code, or as further defined in the new PD-32 Ordinance. As such, parking demand impacts on the project site will be less than significant.

[403] *Shared parking is defined as parking spaces that can be used to serve two or more individual uses without conflict or encroachment. Shared parking can be implemented when variations in the peak accumulation of parked vehicles as the result of different activity patterns of adjacent or nearby land uses occur, and when there are relationships among the uses that result in people's attraction to two or more land uses on a single vehicle trip to a given area or development.*

[404] *Surface parking will generally be associated with commercial uses. In areas with higher development densities, parking may be consolidated into subterranean or above-grade structures. On-street parking will also be provided for some specified uses.*

Table 70

EXAMPLES OF LONG BEACH MUNICIPAL CODE PARKING REQUIREMENTS

Type of Use	Required Parking	Other Requirements
Residential		
1 or more bedrooms	1.5 spaces/unit	Guest parking = 1 space per 4 units[a]
2 or more bedrooms	2.0 spaces/unit	
Other		
Community, Regional, or Neighborhood Shopping Center	5 spaces/1,000 sf (gfa)	Parking for detached fast-food restaurant calculated separately
Dinner Restaurant	10 spaces/1,000 sf (gfa) of dining area	Plus 20 spaces/1,000 sf (gfa) for tavern area and 25 spaces/1,000 sf (gfa) for dance floor
Hotel	1 space/guest room	Parking for banquet rooms, restaurants, etc. figured separately
Research Laboratories	3 spaces/1,000 sf (gfa)	
Warehouse, Airplane Hanger, and Mechanical Equipment Buildings	1 space/1,000 gfa	Office area greater than 25% calculated separately
Professional Office	4 spaces/ 1,000 gfa	2 spaces/1,000 gfa for office exceeding 20,000 gfa or 1 space/each company vehicle exceeding 5

[a] *On-street parking abutting the lot shall be considered as guest parking when all access to on-site parking is taken from an alley and the site is outside the parking-impacted area.*

sf = square feet

gfa = gross floor area

Source: City of Long Beach Municipal Code.

(7) Construction-Related Impacts

Construction activities associated with the PacifiCenter project could result in temporary traffic impacts on the surrounding roadways. Such impacts could be caused by an increase in truck traffic associated with removal or import of fill material and delivery of construction materials, and an increase in automobile traffic associated with construction workers traveling to and from the site. As discussed in Section III, Project Description, of this EIR, the project will be developed based on market conditions but in accordance with a commercial infrastructure phasing plan. Therefore, traffic impacts from construction will vary throughout the construction period depending on the total amount of construction, the duration of construction, and the intensity of construction activity. As such, the discussion of construction-related traffic impacts is based on a qualitative analysis reflecting conservative assumptions in order to analyze a worst-case scenario.

With regard to construction worker trips, it is estimated that up to approximately 1,227 trips per day could be generated during the construction activities that require the most workers to be on-site.[405] However, as the hours of construction typically require workers to be on-site prior to the A.M. peak period and allow them to leave prior to the P.M. peak, these trips will likely not significantly affect traffic in the area. With regard to construction truck traffic (e.g., haul trucks), it is estimated that up to 100 to 500 round trip truck trips could travel to and from the site for site preparation activities, during which the most haul truck trips will be generated. As the typical hours of construction and deliveries do not overlap with the P.M. peak hour, significant haul truck traffic impacts during this time period will not occur. With regard to haul truck traffic, such trips could partially overlap with the A.M. peak hour. In general, the roadways that will likely be most affected by construction traffic are Lakewood Boulevard, Cherry Boulevard, Carson Street, and Cover Street, as construction delivery and haul trucks will primarily use these streets to access the project site from I-405 during the various stages of construction.

Overall, construction worker and construction truck trips may cause an intermittent reduction in street and intersection operating capacity on the streets closest to the project site as well as other roadways in the area surrounding the project site. Mitigation measures outlined in Section V.B, Air Quality related to construction deliveries and temporary traffic controls will reduce impacts associated with construction traffic (refer to Mitigation Measure V.B-13). However, while construction traffic impacts will be temporary and short-term, they are, nonetheless, considered significant.

(8) Consistency with Plans and Policies

The project will be consistent with the traffic study requirements as outlined in the Traffic Impact Study Report in a manner consistent with CMP Guidelines. As analyzed in Table 71 on page 711, the project will be consistent with applicable policies within the SCAG RTP. In addition, the project will further the goals set forth in the Transportation Element of the Long Beach General Plan by maintaining or improving the ability to move people to and from activity centers. Traffic conflicts would be avoided to the extent possible and transit ridership would be encouraged. With regard to the goal regarding the maintenance of traffic service levels at LOS D or at the 1987 LOS where that LOS was worse than D, while this goal is based on traffic levels that are more than fifteen years old, the project with proposed mitigation measures will result in improved conditions at nearly all of the study intersections as compared to the future no project conditions. Therefore,

[405] *This number of trips accounts for construction workers, supervisors, small delivery vehicles, inspectors, etc.*

Table 71

ANALYSIS OF PROJECT CONSISTENCY WITH SCAG RTP POLICIES

Relevant Policy [a, b]	Analysis of Project Consistency
4.01 Transportation investments shall be based on SCAG's adopted Regional Performance indicators: • Mobility—Transportation system should meet the public need for improved access, and for safe, comfortable, convenient, faster and economical movements of people and goods.	The circulation improvements proposed within the PacifiCenter site and along the local street network will facilitate on-site access, promote efficient circulation throughout the site and the immediate area surrounding the project site, and improve overall safety through the provision of additional site access points, new on-site roadways, off-site dedicated turning lanes, and bicycle, pedestrian, and transit amenities. Implementation of these improvements in conjunction with improvements currently under construction in the area or considered reasonably assured in the near future (discussed in subsection 2.a.(3), above) will serve to improve levels of service, minimize impacts to adjacent neighborhoods, and generally promote achievement of SCAG's Regional Performance Indicators. Furthermore, the project's TDM program and mitigation measures, including the area-wide traffic signal system upgrade (ATCS), will improve traffic conditions at many area intersections to levels that are improved when compared with future without project conditions.
• Accessibility—Transportation system should ensure the ease with which opportunities are reached. Transportation and land use measures should be employed to ensure minimal time and cost.	As discussed in Section III, Project Description, of this EIR, the project will integrate a variety of mutually supportive land uses, such as employment, housing, and life style amenities as well as restaurant, retail, and hotels uses, that will make efficient use of land and infrastructure, maximize economic viability, and reduce employee, resident, and visitor trips and trip distance. In addition, bicycle and pedestrian amenities will be provided to encourage efficient alternative transportation between land uses within the 261-acre project site.
• Environment—Transportation system should sustain development and preservation of the existing systems and the environment. (All trips)	As previously discussed, the proposed on-site circulation system has been designed to accommodate the estimated future peak-hour traffic volumes that will be generated by project build-out. Sufficient parking and mutually supportive land uses and amenities will be provided on-site to sustain new development. The proposed off-site improvements will complement and enhance the existing transportation system. Since the SCAG objective associated with this Regional Performance Indicator pertains to air quality, it is also important to note that the project incorporates design features and mitigation measures that set forth a program of air pollution control strategies (refer to Section V.B, Air Quality, of this EIR). Furthermore, the project's proposed landscaping and green spaces will enhance the natural and aesthetic environment and serve as a visual buffer for off-site uses.

Table 71

ANALYSIS OF PROJECT CONSISTENCY WITH SCAG RTP POLICIES

Relevant Policy [a, b]	Analysis of Project Consistency
• Reliability—Transportation system should have reasonable and dependable levels of service by mode. (All trips)	Implementation of the proposed circulation improvements in conjunction with improvements currently under construction in the area surrounding the project site or considered reasonably assured in the near future (discussed in subsection 2.a.(3), above) will serve to improve levels of service in the area. More specifically, the project's TDM program and related mitigation measures, including the ATCS, will improve traffic conditions at many area intersections to better levels of service when compared with future without project conditions. As discussed previously in this section, transit use will be encouraged and will be expected to increase, without significant impacts to existing transit services. Bicycle and pedestrian amenities will also be provided to encourage alternative means of transportation.
• Safety—Transportation system should provide minimal accident, death and injury. (All trips)	The proposed circulation improvements will conform to applicable engineering and safety standards. The improvements will promote the safe and efficient movement of people and goods and facilitate convenient and safe pedestrian, bicycle, and transit use. Clear distinctions between auto, bicycle, and pedestrian access and traffic flows will reduce traffic conflicts as much as possible.
• Equity/Environmental Justice—The benefit of transportation investments should be equitably distributed among all ethnic, age and income groups. (All trips)	This criterion, as with all of SCAG's Regional Performance Indicators, is not truly applicable on a project-specific level, since it is based upon the regional transportation system as a whole. However, anyone traveling to or through the immediate area surrounding the project site, including residents, employees, and visitors to the City of Long Beach, the City of Lakewood, and other neighboring areas, regardless of ethnicity, age, or income, will experience the benefits of the circulation improvements proposed as part of the PacifiCenter project. To the extent that the project will improve economic conditions in the local area, the project and its components will promote social and economic equity.
• Cost-Effectiveness—Maximize return on transportation investment. (All trips) – Air Quality – Mobility – Accessibility – Safety	As discussed above, the proposed circulation improvements will facilitate on-site access, promote efficient circulation throughout the site and the immediate area surrounding the project site, and improve overall safety. As also discussed, implementation of the project and associated transportation mitigation measures will contribute to better levels of service at many area intersections than will otherwise occur under future no project conditions. As the project is intended to encourage development and maximize the economic potential of the local area while minimizing environmental impact, implementation of the project components, including the proposed circulation improvements, will prove beneficial and cost-effective.

Table 71

ANALYSIS OF PROJECT CONSISTENCY WITH SCAG RTP POLICIES

Relevant Policy [a, b]	Analysis of Project Consistency
4.02 Transportation investments shall mitigate environmental impacts to an acceptable level.	The project is designed to minimize both off-site and internal vehicle trips through a mixture of complementary land uses as well as on-site amenities. In addition, the proposed circulation improvements will promote efficient circulation throughout the site and in the immediate area surrounding the project site. As detailed later in this section, a series of mitigation measures are proposed to reduce significant project traffic impacts to acceptable levels to the extent feasible.
4.04 Transportation Control Measures included in the approved State Implementation Plan shall be a priority.	Transportation Control Measures, as defined by SCAG, are programs or projects aimed at reducing air quality emissions. As addressed in Section V.B, Air Quality, of this EIR, the project incorporates design features designed to reduce or control air pollutant emissions and a program of air pollution control strategies is set forth via the proposed air quality mitigation measures. Additionally, the transportation mitigation measures detailed below, including the ATCS and TDM program, will help to reduce traffic-related air emissions.
4.16 Maintaining and operating the existing transportation system will be a priority over expanding capacity.	As already discussed, the proposed circulation improvements will facilitate on-site access and promote efficient circulation throughout the immediate area surrounding the project site. In addition, many of the mitigation measures outlined below are designed to reduce congestion, facilitate circulation, and minimize traffic conflicts within the existing transportation system.

[a] *Relevant policies from the Regional Transportation Plan have been excerpted from written comments received from SCAG in response to the Notice of Preparation (NOP) prepared for the PacifiCenter project. A copy of SCAG's NOP comment letter, dated May 24, 2001, is included in Appendix A of the EIR.*

[b] *The numbers used to reference the relevant policies are excerpted directly from SCAG's NOP comment letter. However, the most recent version of the RTP, adopted in April 2001, indicates a different numbering system.*

Source: PCR Services Corporation, January 2004.

the project can be deemed to be consistent with this goal. As discussed above, the project will include amendments to the Transportation Element of the City of Long Beach General Plan to reflect the proposed project in the text. The overall goal of the Long Beach Bicycle Master Plan will be adhered to, as the project will improve the existing bikeway system. Finally, the project will comply with the Circulation Element of the Lakewood General Plan in that it will promote the safe and efficient movement of people and goods and facilitate convenient and safe pedestrian, bicycle, and transit use.

(9) Other Transportation/Circulation Issues

The aviation-related uses that could be developed as part of the project could generate a small number of flights associated with the engine run-up/aircraft testing area. However, these flights would not affect the overall number of flights permitted at the Long Beach Airport. Furthermore, as the project will comply with relevant Federal Aviation Authority (FAA) and Airport Land Use Plan (ALUP) regulations, it will not result in a change in air traffic patterns that will cause substantial safety risks. Refer to Section V.E, Hazards and Hazardous Materials, of this EIR, for a detailed discussion of airport safety.

With regard to hazards associated with a design feature or incompatible uses, as discussed in Sections V.E, Hazards and Hazardous Materials, and V.H, Land Use, of this EIR, the proposed uses and building locations will comply with FAA Part 77 restrictions, the Airport Layout Plan, and ALUP policies. In addition, based on consideration of the Caltrans Airport Land Use Planning Handbook and implementation of the proposed mitigation measures outlined in Section V.E, Hazards and Hazardous Materials, the project will not substantially increase hazards due to incompatible uses. In addition, the internal circulation, as discussed in Section III, Project Description, and illustrated in Figure 9 on page 127 (Proposed Circulation Plan), will be designed so that it will not substantially increase hazards due to a design feature. Thus, no impacts will result.

3. CUMULATIVE IMPACTS

The cumulative effects of ambient growth and traffic from related projects have been incorporated into the analysis discussed above. As indicated in Table 67 on page 694, poor operating conditions (LOS E or F) are projected for the year 2020 without the project during one or both of the peak hours at 70 of the study intersections. The future with project plus mitigation condition will result in an overall improvement to most of the study intersections when compared with future without project conditions due to roadway improvements that will be completed as mitigation for the project. However, there is a small number of the intersections that will experience worse conditions in one or both peak hours under the project with mitigation condition as compared with the future without project condition. This is the case at a total of seven intersections, including the three that will experience significant and unavoidable project impacts. Therefore, while the project with mitigation will result in improved conditions at a majority of study intersections, since seven intersections will experience worse conditions with the project plus mitigation as compared to future no project conditions, the project is considered to contribute to cumulatively considerable intersection impacts.

Cumulative growth in the area surrounding the project site will result in increases in traffic on residential street segments in the vicinity. It is expected that related projects will be required to mitigate any significant impacts to these roadways, as necessary. However, as the project will possibly result in significant unavoidable impacts on up to three residential street segments should the respective jurisdictions fail or be unable to implement acceptable and adequate mitigation measures, the project will also contribute to a cumulatively considerable impact on these residential street segments.

Cumulative traffic on I-405 and SR-91 within the project vicinity will contribute to the existing congestion on these freeways. All of the analyzed mainline segments will be operating at LOS E or F in 2020 in one or both peak hours either with or without development of the PacifiCenter project. The project includes voluntary improvements to the Cherry Avenue on-ramp to I-405. In addition, the project will implement mitigation measures to alleviate impacts to the regional transportation system. However, while the CMP credit/debit analysis indicates that the project will result in an overall benefit to the regional transportation system, since the project will result in a D/C ratio increase of 0.020 or more with a final LOS of F on eight of the nine I-405 freeway segments analyzed, the project is considered to contribute to a cumulatively considerable impact to regional freeways.

Cumulative impacts from construction traffic may occur on certain roadways if multiple projects in proximity to one another are constructed at the same time. However, as with the project, related projects would be expected to implement standard procedures for mitigating construction traffic impacts on roadways, similar to the project. Nonetheless, since the project's impacts from construction have been identified as potentially significant short-term impacts, cumulative impacts from construction are also considered to be potentially significant temporary, short-term significant impacts. No other significant cumulative impacts associated with transportation, circulation, or parking will occur.

4. MITIGATION MEASURES

Because the project could potentially impact a large area and due to the site's location in an area bounded by four regional freeways, the project proposes to implement, or cause to be implemented, a subregional transportation mitigation program that addresses both project impacts and area-wide needs. Recognizing that increasing travel demand has caused the transportation system to reach the limits of its capacity and that intersection and roadway improvements are becoming increasingly infeasible, more and more jurisdictions are pursuing other ways to ease this strain. This includes Intelligent Transportation Systems (ITS) through the application of modern information technology

and communications. Thus, the major component of the PacifiCenter mitigation program utilizes selected ITS measures to improve traffic flow along arterials in the study area and freeway ramp access and connectivity with the surface street system. The project mitigation program also incorporates other mitigation measures, including the implementation of a project transportation demand management program, construction of physical improvements at a number of study intersections, and funding for the implementation of neighborhood traffic management programs to deter the use of local residential streets by non-residential traffic in the neighborhoods around the site. All of these measures are described below. In addition, Figure 66 on page 717 shows the location of the intersection improvements proposed as mitigation measures and the arterial routes for which areawide ATCS is proposed.[406]

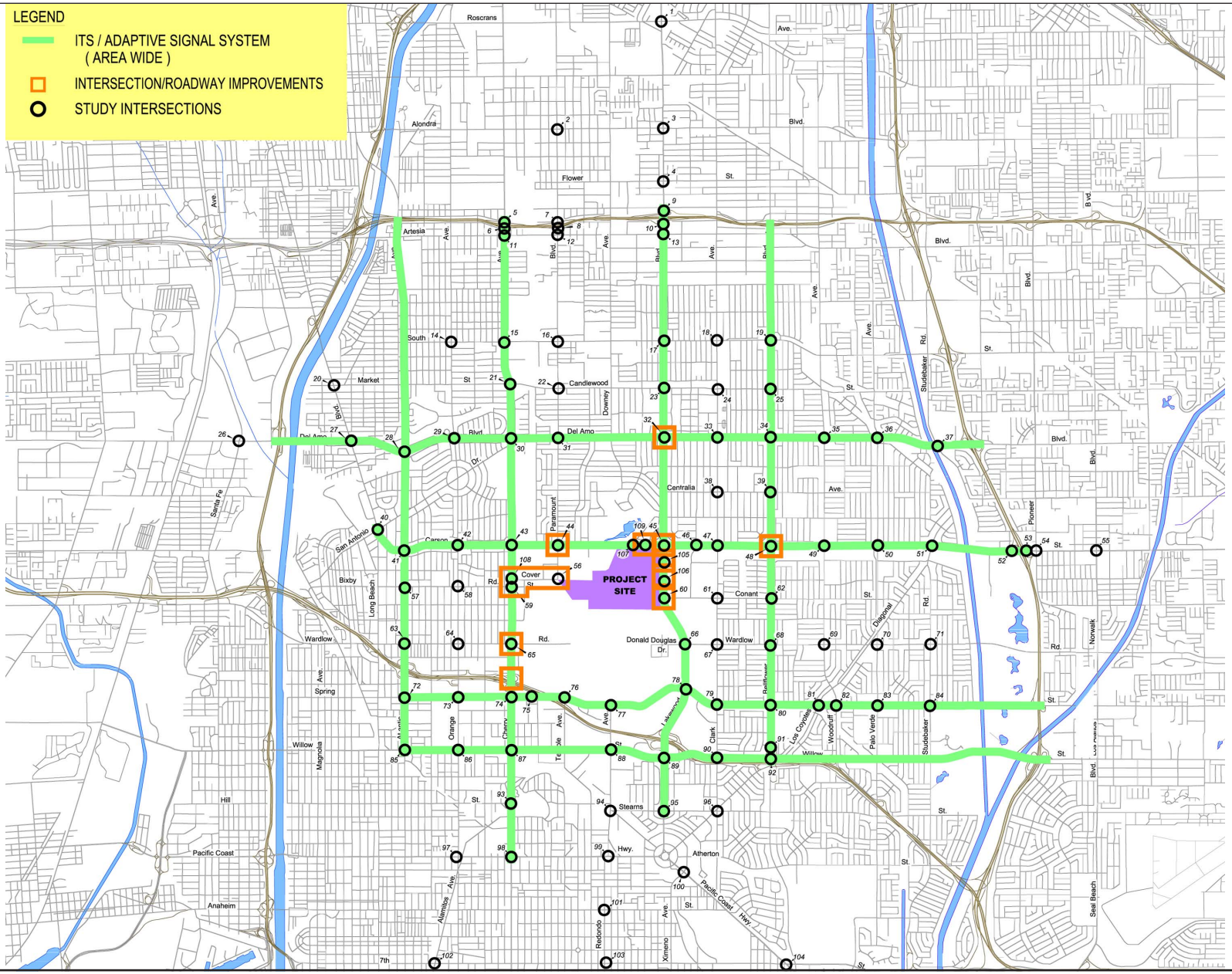
Area-Wide Adaptive Traffic Control System (ATCS) and Intelligent Transportation Systems (ITS) Measures

V.L-1 Fund or cause the funding for the design and construction of a state-of-the-art traffic signal system such as Adaptive Traffic Control System (ATCS) for the following eight arterial routes: (1) Del Amo Boulevard, approximately from the Long Beach Freeway (I-710) to the San Gabriel River Freeway (I-605); (2) Carson Street, approximately from Long Beach Boulevard-San Antonio Drive to I-605; (3) Spring Street, approximately from Atlantic Avenue to I-605; (4) Willow Street, approximately from Atlantic Avenue to I-605; (5) Atlantic Avenue, approximately from the Artesia Freeway (SR-91) to Willow Street; (6) Cherry Avenue, approximately from SR-91 to Pacific Coast Highway; (7) Lakewood Boulevard, approximately from SR-91 to Stearn Street; and (8) Bellflower Boulevard, approximately from SR-91 to the San Diego Freeway (I-405).[407]

V.L-2 Fund or cause the funding for the design and construction of interconnect, traffic detectors, surveillance cameras, message signs,

[406] *Figure 48 does not illustrate all mitigation measures to be implemented (e.g., mitigation measures regarding the TDM program, residential streets, bicycle improvements and public transit).*

[407] *The capacity of the signalized intersections along the eight arterials being implemented with the ATCS and supportive ITS measures were assumed to improve by ten percent, which is consistent with that experienced in other jurisdictions with ATCS/ITS programs, such as the Cities of Los Angeles, Pasadena, and Glendale. Signalized intersections in the study area not directly along the ATCS/ITS routes would also benefit and experience improved traffic flow overall due to ITS technology informing motorists of traffic conditions in the area. Motorists can use this information to seek better routes and thereby better balance traffic demand with capacity. It was assumed that this betterment is commensurate with an approximately three percent improvement in capacity at these other intersections.*



PCR

Scale Not Provided

Source: Crain and Associates, October 2003

Figure 66
Proposed ATCS/Intersection Improvement Locations

and other means that connect the arterial traffic signal system with adjacent freeway on- and off-ramps meters and signals. Such connectivity with the regional transportation system will allow motorists exiting and entering the freeway to be better and more quickly informed as to which surface streets and on-ramps provide the best alternatives for accessing their destinations. This will result in better distribution of traffic loadings and more efficient use of available street and ramp capacity.

V.L-3 Fund or cause the funding for the design and construction of a centralized ATCS/ITS command center to operate and manage the area-wide ATCS and affiliated ITS measures.

The following monitoring and reporting information pertains to Mitigation Measures V.L-1 and V.L-3:

Monitoring Phase: Pre-Construction

Enforcement Agency: City of Long Beach Department of Public Works

Monitoring Agency: City of Long Beach Department of Public Works and City of Lakewood Department of Public Works

Action Indicating Compliance: Provision of necessary funding or other suitable financial instrument by Applicant

Intersection Improvements

As stated above, the intersections at which improvements are proposed as mitigation measures are shown on Figure 66 on page 717.

V.L-4 Del Amo Boulevard and Lakewood Boulevard (Intersection 32, Cities of Lakewood and Long Beach): Widen on the east side of the north leg and the west side of the south leg of Lakewood Boulevard; remove the nose islands and modify the remaining raised islands on the north and south legs; and restripe the north and south legs to provide a second southbound left-turn and three through lanes in each direction on Lakewood Boulevard. No on-street parking removal is anticipated.

V.L-5 Carson Street and Paramount Boulevard (Intersection 44, City of Lakewood): Widen on the east side of the south leg of Paramount Boulevard; modify and shift the raised island on the north leg; remove the raised island on the south leg; and restripe the north and south legs to provide a northbound right-turn-only lane on Paramount Boulevard. No on-street parking removal is anticipated.

V.L-6 Carson Street and Lakewood Boulevard (Intersection 45, Cities of Long Beach and Lakewood): Widen on the west side of Lakewood Boulevard between Carson Street and the project access roadway opposite Douglas Center Drive; modify and shift the raised islands on the north and south legs; restripe the north leg to provide an additional southbound through lane; and restripe the departure lanes on the south leg to receive the added through lane traffic. No on-street parking removal is anticipated.

(Note: This improvement will not fully mitigate the project impact to a less than significant level.)

V.L-7 Carson Street and Bellflower Boulevard (Intersection 48, Cities of Long Beach and Lakewood): Prohibit parking during the A.M. peak period on the north side of Carson Street for a length of approximately three blocks east and west of Bellflower Boulevard; modify and lengthen the left-turn channelization along the raised islands on the east and west legs of Carson Street; and restripe this length of Carson Street to provide a third westbound through lane, including conversion of the right-turn lane at Bellflower Boulevard, for the A.M. peak periods, and extended left-turn lanes approaching Bellflower Boulevard.

On-street parking removal of up to approximately 75 spaces during the A.M. period on the north side of Carson Street will be necessary. The affected parking spaces are adjacent to residential and commercial uses that appear to have off-street parking facilities capable of satisfying parking requirements. Therefore, removal of the on-street parking is not expected to have a significant impact.

V.L-8 Cover Street and Paramount Boulevard (Intersection 56, City of Lakewood); Cover Street from Paramount Boulevard to West of Industry Avenue (Cities of Long Beach and Lakewood): Construct the project roadway approximately in a northwesterly alignment approaching Cover Street and Paramount Boulevard, and stripe to provide two through lanes and a right-turn-only lane westbound, and

a bike lane in each direction. Reconstruct Cover Street approximately in a southeasterly alignment approaching the project roadway and Paramount Boulevard, and restripe to provide a left-turn lane and two through lanes eastbound, and a bike lane in each direction. Restripe Paramount Boulevard to provide a left-turn lane and a right-turn-only lane southbound. No on-street parking removal is anticipated.

Widen on the north side of Cover Street from approximately 100 feet west of to 340 feet east of Industry Avenue; modify and lengthen the left-turn channelization along the raised island on the east leg at Industry Avenue; and restripe to provide two through lanes, left-turn channelization and a bike lane in each direction, including an extended westbound left-turn lane at Industry Avenue, from Industry Avenue to the improvement at Paramount Boulevard. Restripe the west leg of Cover Street at Industry Avenue to provide two eastbound through lanes, including conversion of the right-turn-only lane, and two westbound right-turn-only lanes departing the intersection and approaching Cherry Avenue. On-street parking removal of up to approximately three spaces on Cover Street will be necessary.

Restripe Industry Avenue between Cover Street and Bixby Road to provide a left-turn lane and two right-turn-only lanes northbound, a southbound through lane, and a bike lane in each direction.

The affected parking spaces are adjacent to commercial and industrial uses. There appears to be sufficient off-street capability to satisfy parking requirements. Therefore, removal of the on-street parking is not expected to have a significant impact.

The reorientation and reconfiguration of the legs of this intersection could potentially necessitate some right-of-way acquisition.

(Note: These improvements are designed to enhance project access via the Cover Street-Cherry Avenue route and should be implemented with Mitigation Measures V.L-9 and V.L-14.)

V.L-9 Bixby Road and Cherry Avenue (Intersection 59, Cities of Long Beach and Lakewood): Restripe the east leg of Bixby Road to provide one left-turn lane, one left-turn/through shared lane and one right-turn-only lane.

On-street parking removal of up to approximately 37 spaces, including nine commercial (yellow zone) spaces, on Bixby Road will be necessary. The affected parking spaces are adjacent to commercial uses. There appears to be sufficient off-street capability to satisfy parking requirements, with the possible exception of delivery/service needs. Therefore, removal of some of the on-street parking may result in a shortage of parking in the area during times of peak demand.

(Note: This improvement is designed to enhance project access via the Cover Street-Cherry Avenue route and should be implemented with Mitigation Measures V.L-8 and V.L-14.)

V.L-10 Conant/B Street and Lakewood Boulevard (Intersection 60, City of Long Beach): Construct and stripe B Street approaching Lakewood Boulevard to provide one left-turn lane, one through lane and two right-turn-only lanes eastbound. Restripe and convert the right-turn-only lane on the east leg of Conant Street to a westbound through/right-turn shared lane. No on-street parking removal is anticipated.

(Note: This improvement will not fully mitigate the project impact to a less than significant level.)

V.L-11 Wardlow Road and Cherry Avenue (Intersection 65, City of Long Beach): Widen on both sides of the south leg of Cherry Avenue; shorten the raised island on the north leg; and restripe the north and south legs to provide a third southbound through lane.

Extensive on-street parking removal on Cherry Avenue, especially on the north leg, will be necessary. The affected parking spaces are adjacent to commercial and residential uses. There appears to be sufficient off-street capability to satisfy parking requirements. Therefore, removal of the on-street parking is not expected to have a significant impact.

(Note: This improvement is designed to enhance project access via Cherry Avenue.)

V.L-12 Douglas Center Drive/Project Access Roadway (new) and Lakewood Boulevard (Intersection 105, City of Long Beach): Widen on the west side of Lakewood Boulevard between Carson Street and the project

access roadway; modify the raised island on Lakewood Boulevard for left-turn channelization; and restripe to provide a fourth southbound through lane that becomes a right-turn-only lane at the project access roadway, and a northbound left-turn lane. No on-street parking removal is anticipated.

(Note: This improvement is designed to enhance project access capacity on Lakewood Boulevard.)

V.L-13 A Street (new) and Lakewood Boulevard (Intersection 106, City of Long Beach): Widen on the west side of the north leg of Lakewood Boulevard; open and modify the raised island on Lakewood Boulevard to provide left-turn channelization; and restripe to provide a southbound right-turn-only lane and northbound left-turn lane. Install a traffic signal with the ATCS upgrade to control this intersection.

(Note: This improvement is designed to enhance project access capacity on Lakewood Boulevard.)

V.L-14 Cover Street and Cherry Avenue (Intersection 108, Cities of Long Beach and Lakewood): Open and modify the raised island on Cherry Avenue between Roosevelt Road and Bixby Road, and restripe to provide a southbound left-turn lane accessing Cherry Avenue and a third northbound through lane. Restripe Cover Street to provide a second westbound right-turn-only lane and no westbound left-turn lane. Remove the stop sign control on Cover Street and install a "half signal" that controls all movements except for the southbound through movement on Cherry Avenue.

On-street parking removal of up to approximately 12 spaces on Cherry Avenue and 24 spaces on Cover Street would be necessary. The affected parking spaces are adjacent to commercial and industrial uses. Some of these uses may not have sufficient off-street capability to satisfy parking requirements. Therefore, removal of the on-street parking may result in a shortage of parking in the area during times of peak demand.

(Note: This improvement is designed to enhance project access via the Cover Street-Cherry Avenue route and should be implemented with Mitigation Measures V.L-8 and V.L-9.)

V.L-15 Carson Street and First Street (new) (Intersection 109, City of Long Beach): Restripe Carson Street to provide a westbound left-turn lane. Install a traffic signal with the ATCS upgrade to control this intersection. No on-street parking removal is anticipated.

The following monitoring and reporting information pertains to Mitigation Measures V.L-4 through V.L-15:

Monitoring Phase: Construction/Post-Construction

Enforcement Agency: City of Long Beach Department of Public Works and City of Lakewood Department of Public Works

Monitoring Agency: City of Long Beach Department of Public Works and City of Lakewood Department of Public Works

Action Indicating Compliance: Documentation by Applicant that improvements have been constructed

Project Transportation Demand Management (TDM) Program

V.L-16 A project TDM program shall be implemented to reduce inbound A.M. peak-hour and outbound P.M. peak-hour employee vehicle trips by 20 percent for the Commercial (Office Park) use. Although the project is claiming trip-reduction credit for only this use, many of the TDM program measures will be available to a broader cross section of the site, and will likely attract participants outside of the targeted uses. Should it become evident that the project TDM program is not on schedule to achieve and sustain the 20 percent trip reduction goal, the project, as mutually agreed to with the City of Long Beach, will accelerate the implementation of the physical mitigation measures and/or expand its TDM program to include other employers in the area surrounding the project site. The project TDM program is more fully described in Appendix Q. The TDM program may include but not be limited to the following measures:

- On-Site Employee Transportation Coordinator (ETC)—The ETC would be a full-time position. The ETC would be responsible for maintaining the transportation displays and providing services such as on-site monthly transit pass sales, assistance with carpool/vanpool matching, oversight of the carpool/vanpool

program and other ridesharing related services. The ETC would also coordinate resources and ideas with other transportation management organizations.

- On-Site Transportation Management Office—This facility would be a dedicated office for the ETC and any support personnel. It would serve as a tangible focal point for the TDM program. The location and contact number of this office would be well publicized so that employees could conveniently call or come in for assistance.

- Preferential Parking Management—The ETC would oversee a preferred employee carpool/vanpool parking program. This program would assign preferential parking spaces (i.e., the more desirable and convenient spaces) to eligible employee carpools and vanpools, and monitor the use of the identified spaces to ensure that they are being properly used.

- Carpool/Vanpool Matching—A ridematching service would be made available to help employees seek carpool and vanpool partners. The ETC would facilitate employee ridematching, with the primary emphasis on matching project employees with one another. The availability of this service would be advertised on on-site transportation displays.

- Vanpool Start-Up Assistance—The ETC would assist employers or employees attempting to initiate vanpool service at the project. This assistance could include research of van leasing arrangements, research of applicable tax credits, increased marketing activity and developing vanpool routes.

- Vanpool Staging Areas—Special vanpool passenger loading/ unloading areas would be established at one or more locations on-site. This incentive would make it more convenient and safer for commuters to load and unload their vanpools outside the normal flow of traffic.

- On-Site Transit Pass Sales—Monthly LBT, joint LBT/MTA, and MTA passes would be available for purchase through the on-site transportation management office (TMO).

- Centralized Information Board—A centralized bulletin board or kiosk with information on alternative transportation modes, including transit, would be provided on-site. A centralized transportation information board with similar information for residents would also be provided on-site.

- New Business/Employee Commuter Benefits/Flier Packet—The ETC would prepare fliers and/or packets outlining key TDM amenities and services that are made available by the project in support of alternative transportation modes. The fliers/packets would be distributed to employers for their dissemination to employees.

- Guaranteed Ride Home Program—This program would provide the means to those employees who carpool, vanpool, bus, or bicycle to work to have a guaranteed ride home in the event of an emergency or unexpected overtime.

- Other Marketing—The annual state- and regional-level events of California Rideshare Week and Southern California Bike-to-Work Day would be advertised and potentially used as the setting for a site-specific marketing event or transportation fair.

- Shuttle System—This shuttle system would be implemented through a joint arrangement with the City of Long Beach and/or Long Beach Transit, whereby the project would supply the shuttle vehicles and other capital needed to operate the service, and the City agencies would operate the service. It is anticipated that the shuttle system would provide limited stop service to the Metro Blue Line and intersecting bus lines that are en route during the morning and afternoon commute periods, and would operate as a free project circulator during non-commute periods to provide an alternative to walking or short driving trips within the PacifiCenter site.

Monitoring Phase: Operation

Enforcement Agency: City of Long Beach Departments of Public Works and Planning and Building

Monitoring Agency: City of Long Beach Department of Public Works

Action Indicating Compliance: Periodic trip monitoring and TDM reports prepared by Applicant on a regular basis

Regional Transportation Improvements

V.L-17 I-405 (San Diego Freeway) Northbound On-Ramp from Southbound Cherry Avenue: Widen the two northbound on-ramps in the area where these ramps merge to provide an elongation of the merge section for a smoother and safer merge. Additionally, the ramp

metering location for southbound traffic from Cherry Avenue could be relocated to provide added queuing length between the meter and Cherry Avenue.

Monitoring Phase: Pre-Construction/Construction

Enforcement Agency: California Department of Transportation

Monitoring Agency: California Department of Transportation and City of Long Beach Department of Planning and Building

Action Indicating Compliance: Caltrans acceptance of improvements

Residential Street Measures

V.L-18: The Applicant shall provide appropriate funding to the City of Long Beach to administer and allocate for the design and implementation of neighborhood traffic management measures to deter non-residential traffic intrusion into the residential areas surrounding the project site. Such measures may include speed bumps, additional stop signs, peak period turning prohibitions, "right turn on red" prohibitions, retiming of traffic signals, architectural neighborhood identification monuments or gates, or round-a-bout traffic circles. The City of Long Beach will include and coordinate with adjacent jurisdictions and neighborhood groups that may be affected by project-related traffic intrusion on these residential streets.

Monitoring Phase: Pre-Construction/Construction

Enforcement Agency: City of Long Beach Department of Public Works

Monitoring Agency: City of Long Beach Department of Public Works

Action Indicating Compliance: Provision of necessary funding or other suitable financial instrument by the Applicant

As the PacifiCenter project is developed, the traffic mitigation measures listed above will be implemented in a phased manner. These measures will be phased to mitigate off-site traffic impacts before they become significant. The various components of mitigation (i.e., off-site physical improvements; regional traffic signal system corridor upgrades; transportation demand management; neighborhood traffic management

programs; and new roadway linkages) will be staged to anticipate the traffic consequences of project development as it is implemented. If mitigation measures that are not controlled by the City of Long Beach are precluded (e.g., mitigation measures that are under the jurisdiction of another agency and are not implemented by that agency), additional significant impacts could result.

Public Transit Measures/Improvements

V.L-19 The Applicant shall consult with Long Beach Transit (LBT) and the Metropolitan Transportation Authority (MTA) to address the project's anticipated transit demand needs.

Monitoring Phase: Pre-Construction

Enforcement Agency: Long Beach Transit and Metropolitan Transportation Authority

Monitoring Agency: City of Long Beach Department of Public Works

Action Indicating Compliance: Documentation from transit agencies acknowledging actions of Applicant to address transit needs

Bicycle Facility Improvements

V.L-20 In keeping with the intent of the Long Beach Bicycle Master Plan, the project will continue to provide a Class I bike lane within the Carson Street parkway adjacent to the site between First Street and Lakewood Boulevard, and will provide a Class II bike lane that extends through the project site south from Carson Street and west to the Paramount Boulevard/Cover Street intersection. These bicycle facility improvements will occur simultaneously with the phasing of the on-site streets.

Monitoring Phase: Construction

Enforcement Agency: City of Long Beach Departments of Public Works and Planning and Building

Monitoring Agency: City of Long Beach Departments of Public Works and Planning and Building

Action Indicating Compliance: Documentation by Applicant showing that improvements have been suitably guaranteed, such as through bonding

Parking Measure

V.L-21 A shared parking analysis will be prepared and submitted to the City of Long Beach for review and approval to justify a reduction in the Code-required on-site parking for the uses that will implement joint-use parking.

Monitoring Phase: Prior to Issuance of Building Permit

Enforcement Agency: City of Long Beach Departments of Public Works and Planning and Building

Monitoring Agency: City of Long Beach Departments of Public Works and Planning and Building

Action Indicating Compliance: Approval of shared parking analysis by the City of Long Beach Traffic Engineer and reduction of parking requirements by the Zoning Administrator

5. SIGNIFICANCE AFTER MITIGATION

The proposed mitigation measures outlined above will reduce nearly all of the significant project impacts at the 55 intersections to less than significant levels. However, significant impacts will remain at three intersections as shown in Table 72 on page 729. The project will also contribute to significant and unavoidable cumulative impacts at these intersections as well as four other intersections that will not be significantly impacted by the project but will not have improved conditions under the proposed project with mitigation measures as compared to the future no project conditions.

In terms of impacts to the regional transportation system, the project will fund or cause to be funded extensive area-wide mitigation measures on the surface street system, which will have much greater benefit than impact on the regional system. In addition, voluntary improvements to the Cherry Avenue on-ramp to the I-405, which are included as part of the project, will further reduce cumulative impacts to the regional system. However, although the credit/debit analysis indicates that the project will result in an overall benefit to

Table 72

SIGNIFICANT INTERSECTION IMPACTS AFTER MITIGATION

No.	Intersection	Jurisdiction	Peak Hour(s) Impacted	LOS	V/C
65	Carson Street and Lakewood Boulevard	Long Beach and Lakewood	P.M.	F	0.083
60	Conant Street/B Street and Lakewood Boulevard	Long Beach	A.M.	E	0.385
78	Spring Street and Lakewood Boulevard	Long Beach	A.M.	F	0.023
			P.M.	F	0.134

Source: Crain & Associates, January 2004.

the regional system, since the project will result in a D/C ratio increase of 0.020 or more with a final LOS of F on eight of the nine I-405 mainline segments analyzed, the project's impacts on these freeway segments are considered significant and unavoidable.

Project impacts to residential street segments can be reduced through the implementation of a mitigation measure requiring the funding for the implementation of neighborhood traffic management measures. However, should the jurisdiction(s) with authority to implement these measures fail or be unable to implement acceptable and adequate measures, project impacts on possibly up to three significantly impacted residential street segments would be significant and unavoidable.

With regard to construction traffic, while traffic impacts associated with construction worker and haul truck trips will be short-term and temporary, they are considered to be a significant and unavoidable impact. Should several projects in the vicinity of the project be constructed at the same time, the project will also contribute to a short-term significant cumulative impact.

The project will provide adequate parking to serve the proposed uses as well as to satisfy parking requirements included in the Long Beach Municipal Code and City of Lakewood Municipal Code. As such, no significant parking impacts will occur. In addition, as indicated above, significant unavoidable impacts associated with transit, and bicycle and pedestrian circulation will not occur. Finally, the project will not result in a change in air traffic patterns that will cause substantial safety risks or substantially increased hazards due to a design feature or incompatible uses.